DYNALEC CORPORATION

Dynalec Integrated Announcing System

User's Manual

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Safety Precautions and General Information

Safety Precautions

The following paragraphs contain general safety precautions that are not related to any specific procedures and therefore do not appear anywhere else in the publication. These are precautions that must be observed during the performance of any operation or maintenance task.

Live Circuits

Operation of this equipment requires the use of high voltages which may be dangerous to life. Operation and maintenance personnel must perform the following prior to working on equipment:

1. De-energize power circuit to unit prior to working on any part of the unit.
2. Tag circuit where it is de-energized to warn other personnel so they do not energize the circuit.
3. Discharge and ground circuits to assure they are de-energized prior to touching them.

Service Restrictions

DO NOT service or adjust equipment alone. Under NO circumstances should any personnel reach within an enclosure for any purpose without the presence or assistance of another person capable of rendering aid.

Description of the Dynalec Integrated Announcing System (DIAS)

The Dynalec Integrated Announcing System (DIAS) has been designed for use in shipboard announcing system applications requiring flexibility, expandability, and robustness. The system meets or exceeds the requirements for the Legacy systems while incorporating many features that overcome difficulties historically experienced with them. The modular nature of the system allows it to be used in applications previously requiring more than one system and also permits expansion to accommodate the ever-changing system.

Salient Characteristics

Size:	22.1”W x 63.8”H x 26.3”D (including shock mounts)
Weight:	360 lbs. Maximum (for 2-Amplifier Chassis system with 12 amplifiers)
Power Requirements:	115VAC ± 10% @ 60Hz ± 10%, single phase, 0.98 PF
Standby:	300mA maximum per 250W Amplifier Module (60173-350)
Rated Output:	2.8A maximum per 250W Amplifier Module (60173-350)
Heat Dissipation:	72W at rated output per 250W Amplifier Module (60173-350)
	250 BTU/Hr at rated output per 250W Amplifier Module (60173-350)
Operating Environment:	Shipboard Sheltered Application
	0 to 65°C
Enclosure:	Drip-proof
	95% Relative Humidity, maximum

Replaceable Assemblies:

Ship’s Wiring Tray (Dynalec P/N 60173-435)
Main/Amp Interface Module (Dynalec P/N 60173-415)
Auxiliary Amp Interface Module (Dynalec P/N 60173-455)
Legacy Mic Interface Module (Dynalec P/N 60173-425)
PBX/IVCS Modem Interface Module (Dynalec P/N 60173-445)
Amplifier Chassis Assembly (Dynalec P/N 60173-300)
250W Amplifier Module (Dynalec P/N 60173-350)
Fan Tray Assembly (Dynalec P/N 60173-236)

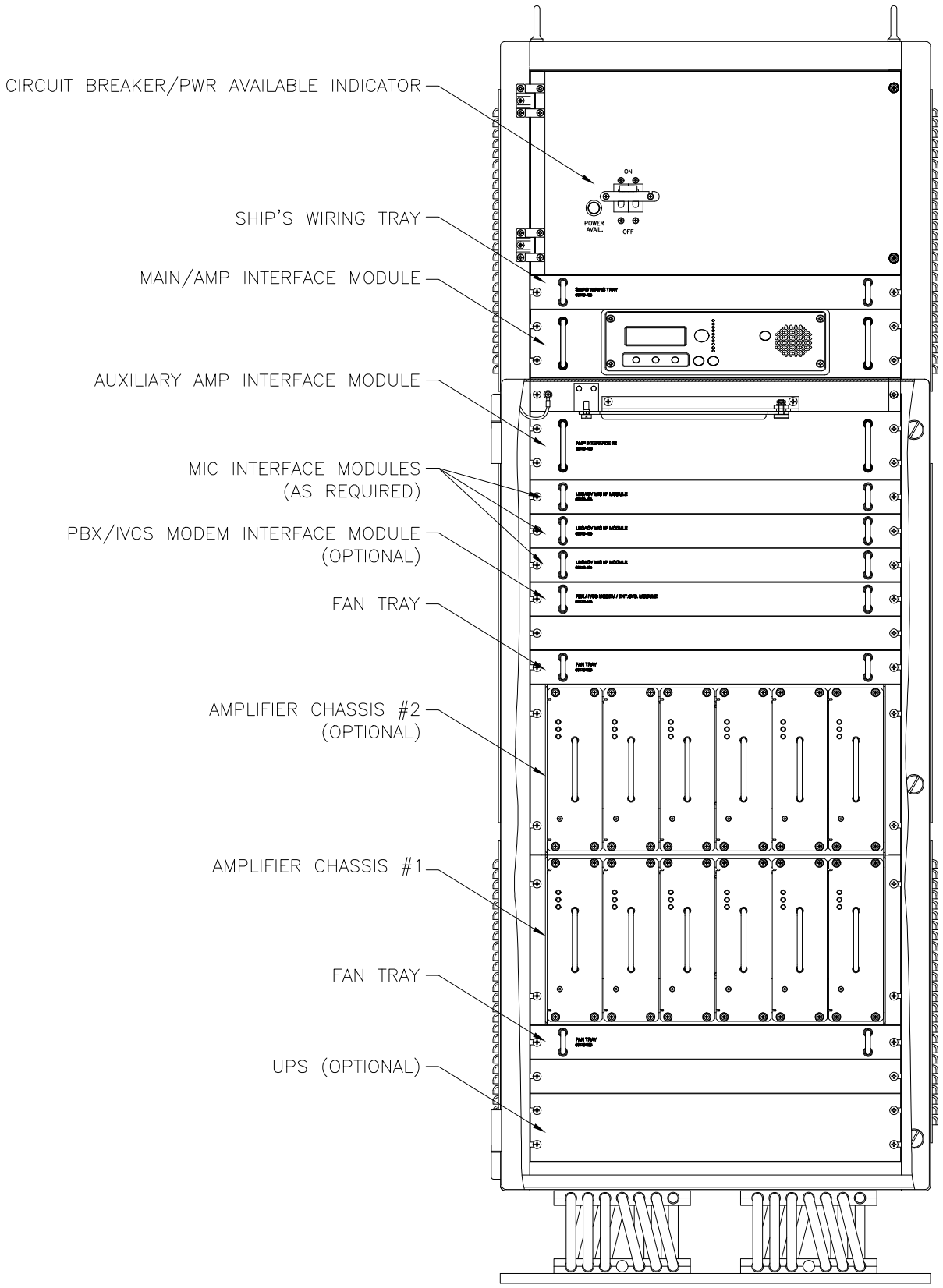

CIRCUIT BREAKER/PWR AVAILABLE INDICATOR
SHIP'S WIRING TRAY
MAIN/AMP INTERFACE MODULE
AUXILIARY AMP INTERFACE MODULE
MIC INTERFACE MODULES
(AS REQUIRED)
PBX/IVCS MODEM INTERFACE MODULE
(OPTIONAL)
FAN TRAY
AMPLIFIER CHASSIS #2
(OPTIONAL)
AMPLIFIER CHASSIS #1
FAN TRAY
UPS (OPTIONAL)
ON
POWER AVAIL.
OFF

Figure 1

Integrated Announcing System Components

Refer to Figure 1 on page 7 for locations of the various system components in the DIAS rack.

Main/Amplifier Interface Module

The Main/Amplifier Interface Module (Dynalec P/N 60173-415) is responsible for the following system functions:

- Controlling the User Interface (see Using the User Interface section of the Operation chapter on page 11)
- Routing audio from mic stations (or other sources) to amplifier modules in Amplifier Chassis #1 as dictated by the system configuration
- Generating alarm signals from one of two redundant Alarm Generators as dictated by the system configuration
- Maintaining periodic communication with the Amplifier Chassis to report faults in any of the system amplifier modules
- Generating auxiliary signals (entertainment system attenuate/mute, visual alarm indicator, alarm active contact closure) as necessary
- Converting 115VAC input power to the DC power required for all other modules
- Test amplifier modules and Alarm Generators as requested by the user via the User Interface
- Report test results to user via the User Interface

The Main/Amplifier Interface module is required for all systems, regardless of configuration.

Auxiliary Amplifier Interface Module (optional)

The Auxiliary Amplifier Interface Module (Dynalec P/N 60173-455) is required only in systems that use a second Amplifier Chassis (since the Main/Amplifier Interface Module [see above] can only handle routing to 6 amplifiers). This module handles only the routing function described above and it is powered by the DC power generated in the Main/Amplifier Interface Module.

Legacy Mic Interface Module

The Legacy Mic Interface Module (Dynalec P/N 60173-425) contains the interface circuitry to interface with any combination of four Legacy Mic Control Stations (IC/MSB-2), Mic Jack Boxes (IC/MJB-2), or M-136A/SIC Microphones.

Each interface consists of a transformer-coupled input audio pair, which can accommodate standard mic level (-50dBm) or can be switched via an internal DIP-switch (see the Mic Interface DIP-switch Adjustment section on page 77) to accommodate standard line level (0dBm) (see PBX/IVCS Modem Interface below). In addition, each interface accepts group select signals for up to 10 announcing system groups and a PTT signal. Each interface provides a busy signal for each group "block" (see the Configuring the System section of the Operation chapter on page 13 for definition of a group "block"), an audio output derived from the actual amplifier output(s) for driving the visual indicator on an IC/MSB-2, and a cutout signal for local loudspeaker cutout (see the Local Loudspeaker Cutout Connection section on page 76).

Connectivity to the Legacy Mic Interface Module is accomplished through the Ship's Wiring Board (see page 10). Each mic interface has its own connectors and the signals are labeled on both the board silkscreen and on the C-size print included in the pocket provided inside the door of the system.

PBX/IVCS Modem Interface Module

The PBX/IVCS Modem Interface Module (Dynalec P/N 60173-445) also contains four interfaces to the announcing system. However, this module is more specialized in that one of the four interfaces is dedicated to connecting to a Modified IVCS Modem (Dynalec P/N 62300-127-1) to allow announcements through a STC-II telephone system (see the Installation section for connectivity).

In addition, one of the four interfaces is dedicated to connecting to up to six standard analog line interfaces (POTS interfaces). In this manner, the functionality of the IVCS Modem is duplicated without an extra piece of hardware and is accomplished using industry standard analog line interfaces.

The remaining two of the four interfaces are identical to the Legacy Mic Station interfaces on the Legacy Mic Interface Module (see description above).

Amplifier Chassis

The Integrated Announcing System can accommodate up to 2 Amplifier Chassis (Dynalec P/N 60173-300). Each chassis can hold up to six 250W Amplifier Modules (Dynalec P/N 60173-350) and can be configured so that one of the six is a spare module which is automatically switched in upon detection of a fault in one of the other five.

Each amplifier module incorporates its own independent circuitry and is separately fused so that any faults that may occur are isolated from the other modules. Each module also has its own power switch so that amplifiers may be swapped without affecting the operation of the other modules.

Each Amplifier Chassis connects to the Main/Amplifier Interface Module through internal rack wiring and input audio is routed from the various input interface modules (Mic Interface Module or PBX/IVCS Modem Interface Module) to each amplifier module based on the system configuration. Each amplifier output is directed to the Ship's Wiring Tray (see below) and is also connected to the Main/Amplifier Interface Module for routing back to Mic Control Stations for VU meter indications.

The Main/Amplifier Interface Module also periodically obtains diagnostic information from each Amplifier Chassis and reports any faults to the User Interface.

At least one Amplifier Chassis is required for *all* systems.

Ship's Wiring Tray

All connections between the ship's wiring and the Integrated Announcing System are made at the Ship's Wiring Tray (Dynalec P/N 60173-435). The Ship's Wiring Board (mounted in the tray – Dynalec P/N 60173-430) has connectors for 16 Mic Station Interfaces, Alarm Contactor Inputs for the 5 alarm signals, IVCS Modem Interface, Analog Line Interfaces (6 lines), and Loudspeaker Interfaces (including Local Loudspeaker Disconnect connections). All connectors are Euroblock-type connectors to facilitate simple wiring of the system.

Using the User Interface

The User Interface is the mechanism in the system for entering system configuration information, entering test commands, and receiving diagnostic information. The User Interface consists of the following elements: a 4-line x 20-character display, a rotary encoder ("Scroll Knob"), 3 push-button "softkey" switches, a backlight intensity knob, a display contrast knob, an LED-based bargraph display, a loudspeaker, and a loudspeaker volume knob (see Figure 2 below).

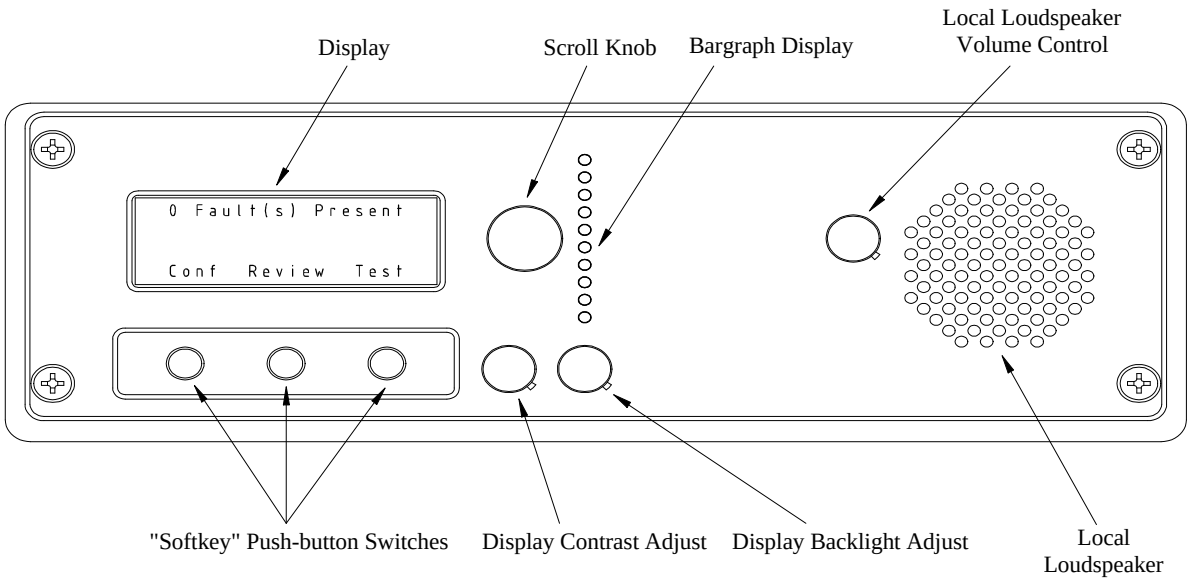


Figure 2 : The User Interface

Display & Display Adjustments

The display is the component of the User Interface which allows diagnostic, configuration, and testing information to be conveyed to the user. The display consists of 4 lines of 20 characters each. The bottom line is reserved for "softkey" labels (see the "Softkey" Push-button Switches section below) and the remaining 3 lines are used to display information specific to the menu that is being accessed. Figure 3 illustrates the "tree" structure of the menus and shows how to get from menu to menu.

Because various conditions of the operating environment may require different display characteristics, adjustments are included for the intensity of the LED backlighting and the contrast of the display.

"Softkey" Push-button Switches

The 3 buttons immediately below the display are called "softkeys". This term is used since the specific function of each push-button changes depending on the menu shown on the display. On any given menu, the bottom line of the display holds labels describing the functions of each of the buttons. For example, on the main menu screen (top-most box on Figure 3), the three softkey labels are **Conf**, **Review**, and **Test** (from left to right). Pressing the push-button below the **Conf** label (left-most button) brings the user to the Pin-Entry Screen which will take the user to the Configuration Menu. Pressing the push-button below the **Review** label (center button) brings the user to the System Review Menu. Pressing the push-button below the **Test** label (right-most button) brings the user to the Test Menu.

Figure 3 illustrates how the user can maneuver from menu to menu. Pressing the softkey below a **Back** label will bring the user back to the previous menu. Pressing the softkey below an **Esc** label will bring the user back to the main menu.

Scroll Knob

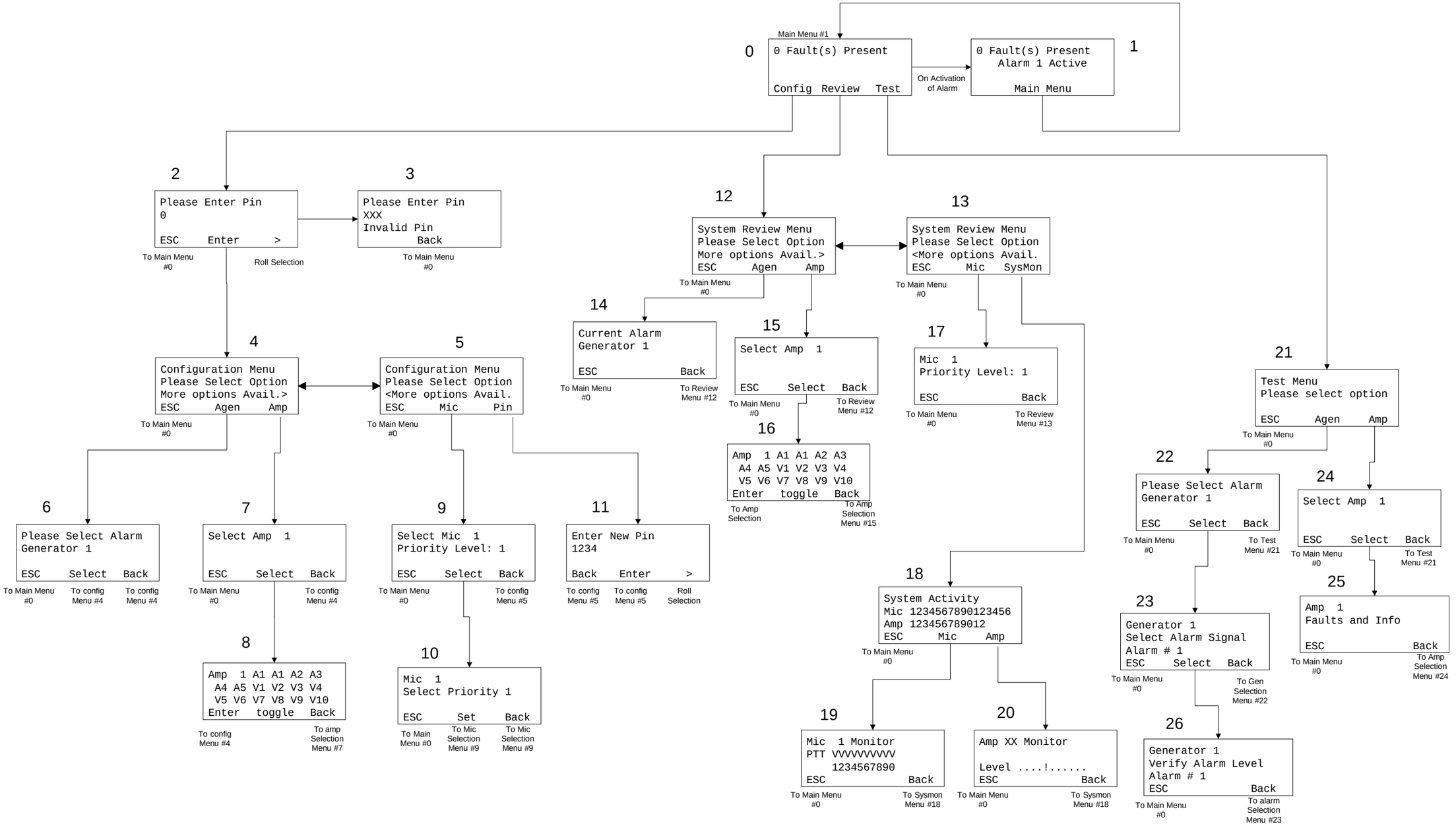
The scroll knob provides a way for the user to "scroll" through several input selections. For example, on the Pin-Entry Screen, the user must enter a 4-digit pin number to obtain access to the Configuration Menu. The scroll knob allows the user to scroll through numbers 0-9 for the digit with the cursor beneath it and the softkey with the label > advances the cursor to the next digit.

The scroll knob is also used for menus that have more than 3 softkey selections. On these menus, the message ***{use knob for more}*** appears to inform the user that there are more softkey selections. Turning the scroll knob right or left accesses them.

Loudspeaker, Bargraph, and Volume Control

These three elements of the User Interface are all related to the Alarm Generator testing feature built into the Integrated Announcing System. The system includes a mechanism for testing either of the two Alarm Generators in the Main/Amplifier Interface Module. In this test mode, the selected alarm is generated from the selected Alarm Generator and routed to the loudspeaker on the User Interface. The volume of the selected alarm signal is determined by the volume control.

The bargraph display consists of red, green, and yellow LED's and provides a quantitative representation of the alarm signal level (not dependent on the volume control setting). When a particular alarm signal is tested, if the Alarm Generator is functioning properly, at least one of the green LED's will be illuminated (it may not remain lit, depending on the nature of the select alarm signal, but it should repeatedly light for each cycle of the signal).


Main Menu #1
0
0 Fault(s) Present
Config Review Test
On Activation of Alarm
0 Fault(s) Present
Alarm 1 Active
Main Menu
1
2
Please Enter Pin
0
ESC Enter >
To Main Menu #0
Roll Selection
3
Please Enter Pin
XXX
Invalid Pin
Back
To Main Menu #0
12
System Review Menu
Please Select Option
More options Avail.>
ESC Agen Amp
To Main Menu #0
13
System Review Menu
Please Select Option
<More options Avail.
ESC Mic SysMon
To Main Menu #0
14
Current Alarm
Generator 1
ESC Back
To Main Menu #0
To Review Menu #12
15
Select Amp 1
ESC Select Back
To Main Menu #0
To Review Menu #12
16
Amp 1 A1 A1 A2 A3
A4 A5 V1 V2 V3 V4
V5 V6 V7 V8 V9 V10
Enter toggle Back
To Amp Selection
To Amp Selection Menu #15
17
Mic 1
Priority Level: 1
ESC Back
To Main Menu #0
To Review Menu #13
4
Configuration Menu
Please Select Option
More options Avail.>
ESC Agen Amp
To Main Menu #0
5
Configuration Menu
Please Select Option
<More options Avail.
ESC Mic Pin
To Main Menu #0
6
Please Select Alarm
Generator 1
ESC Select Back
To Main Menu #0
To config Menu #4
To config Menu #4
7
Select Amp 1
ESC Select Back
To Main Menu #0
To config Menu #4
8
Amp 1 A1 A1 A2 A3
A4 A5 V1 V2 V3 V4
V5 V6 V7 V8 V9 V10
Enter toggle Back
To config Menu #4
To amp Selection Menu #7
9
Select Mic 1
Priority Level: 1
ESC Select Back
To Main Menu #0
To config Menu #5
10
Mic 1
Select Priority 1
ESC Set Back
To Main Menu #0
To Mic Selection Menu #9
To Mic Selection Menu #9
11
Enter New Pin
1234
Back Enter >
To config Menu #5
To config Menu #5
Roll Selection
18
System Activity
Mic 1234567890123456
Amp 123456789012
ESC Mic Amp
To Main Menu #0
19
Mic 1 Monitor
PTT VVVVVVVVVV
1234567890
ESC Back
To Main Menu #0
To Sysmon Menu #18
20
Amp XX Monitor
Level ....!.....
ESC Back
To Main Menu #0
To Sysmon Menu #18
21
Test Menu
Please select option
ESC Agen Amp
To Main Menu #0
22
Please Select Alarm
Generator 1
ESC Select Back
To Main Menu #0
To Test Menu #21
23
Generator 1
Select Alarm Signal
Alarm # 1
ESC Select Back
To Main Menu #0
To Gen Selection Menu #22
24
Select Amp 1
ESC Select Back
To Main Menu #0
To Test Menu #21
25
Amp 1
Faults and Info
ESC Back
To Main Menu #0
To Amp Selection Menu #24
26
Generator 1
Verify Alarm Level
Alarm # 1
ESC Back
To Main Menu #0
To alarm Selection Menu #23

The Integrated Announcing System is designed to be a flexible system that can be configured to handle a wide variety of requirements. In an attempt to keep the system as flexible as possible, the definitions of the announcing groups had to kept general enough so as to not limit potential applications.

Voice Channels

The system consists of 10 Voice Channels. They are referenced in the system configuration as V1 through V10. Each one of these Voice Channels can be assigned to a specific announcing system group. Examples of the announcing system groups are Officers (1MC1), Topside (1MC2), Crew (1MC3), Flight Deck (5MC), and Bullhorn (6MC).

Each of these 10 Voice Channels corresponds to a group select line on each of the Mic Station Interfaces (labeled V1-V10 on the Ship's Wiring Board). When an announcement is made via one of the 16 Mic Station Interfaces, the Voice Channels associated with that announcement depend on the group select lines (V1-V10) which are activated by the Mic Station when the PTT line is activated.

Each amplifier in the system is configured to broadcast any of the Voice Channels. Amplifiers can also be configured to broadcast more than Voice Channel. In the system, there is a built-in priority with Voice Channel 1 (V1) being the highest priority and Voice Channel 10 (V10) being the lowest priority. If an amplifier is configured to broadcast announcements from more than one Voice Channel and the announcements occur simultaneously, only the announcement on the highest priority voice channel (the Voice Channel closest to V1) is broadcast.

An example of the multiple-Voice Channel configuration for an amplifier is the 1MC/3MC configuration typically handled by an AN/SIA-117. Consider the following configuration: the Officers announcing group is assigned to V1 and the Flight Deck Walkways group (3MC1) is assigned to V6. If an amplifier was configured for both V1 and V6, then the Flight Deck Walkways announcements would be broadcast to the loudspeakers connected to the amplifier *unless* an Officers announcement was initiated. In that configuration, the Officers announcement would override the Flight Deck Walkways announcement.

Note that the system is not aware of what Voice Channels are assigned to which announcing groups. The correlation between Voice Channels and announcing groups is made through the Mic Control Station connections (i.e. the group select switch labeled Officers is connected to the V1 terminal on the Euroblock connector for that Mic Station in the above example) and through the amplifier configurations (i.e. the amplifier configured to broadcast from the V1 Voice Channel is connected to loudspeakers intended to take Officers group announcements).

Alarm Channels

The system also consists of five Alarm Channels. They are referenced in the system configuration as A1 through A5. In the case of the Alarm Channels, each one is assigned to a specific alarm signal. The assignments are as follows:

A1	Collision Alarm
A2	Chemical Alarm
A3	General Alarm
A4	Unassigned Alarm
A5	Flight Crash Alarm

As with the Voice Channels in the previous section, the Alarm Channels are arranged in the order of their priority with A1 being the highest priority alarm and A5 being the lowest priority alarm.

All five alarms have priority over the Voice Channels.

Voice Channel "Blocks"

A Voice Channel "block" refers to a grouping of Voice Channels. Voice Channels are grouped so as to duplicate the busy status present in the Legacy systems. Without these "blocks", a system with 10 amplifiers could be used to broadcast 10 different announcements (one on each voice channel) simultaneously. However, given the number of announcing groups handled by the Legacy systems, this is not only unnecessary, but it could result in confusion to the user.

As a result, the following "blocks" have been defined as part of the default system: Block 1 consists of Voice Channels 1-6, Block 2 consists of Voice Channels 7 and 8, Block 3 consists of Voice Channel 9, and Block 4 consists of Voice Channel 10.

If an announcement is being made on any of the voice channels that are part of Block 1 (V1-V6), Block 1 is busy and announcements on any of these voice channels is prohibited until the active announcement is complete (i.e. PTT is released). The same applies to each of the other 3 "blocks".

Each mic interface has busy signals corresponding to each of these 4 "blocks" so that, if and IC/MSB-2 Mic Control Station is used, each of the 2 BUSY lamps can be connected to one of these Block Busy Signals to inform the user that the "block" is busy and they must wait before making an announcement (see Installation section for details on using an IC/MSB-2 with the Integrated Announcing System). The system will ignore attempts to make an announcement on a voice channel which is part of a "block" that is busy.

An example of the usage of "blocks" is an application typically handled by an AN/SIA-114B. The AN/SIA-114B is capable of addressing 5 1MC announcing groups (Officers, Topside, Crew, Engineering Spaces, and Spare). Since, in normal operating mode, all 5

of these 1MC groups is handled by the same half of an AM-2316 amplifier, obviously, only one announcement can be made at a given time (although this announcement may be routed to more than one of the announcing groups). If an announcement is in progress, the 1MC busy line is activated which illuminated the corresponding lamp on any IC-MSB/2 Mic Control Stations connected to the system.

The Integrated Announcing System duplicates this functionality by allowing only 1 Mic Station access to a "block" at a given time. If the 5 1MC announcing groups mentioned above were assigned to the groups in Block 1 (V1-V5, for instance), the Block 1 busy line would be activated if an announcement was in progress on any of them, thus prohibiting announcements from other Mic Stations to Block 1 until the announcement in progress is complete (i.e. PTT is released).

To be more specific, if the Mic Control Station connected to Mic Interface 1 selects the Officers, Topside, and Crew groups (V1, V2, and V3, respectively) to make an announcement, Mic Control Stations connected to any other Mic Interface (2-16) would be unable to access *any* of the 1MC groups (Officers, Topside, Crew, Engineering Spaces, *or* Spare) until the announcement from Mic Interface 1 is complete and the 1MC Busy lamp (Block 1 busy in this case) is extinguished.

Amplifier Configuration

As mentioned in the Voice Channel section above, each amplifier is configured for the Alarm Channels and Voice Channels which are to be routed to it during normal system operation. For example, Amplifier 1 (left-most amplifier in Amplifier Chassis 1) can be configured in the following manner: A1, A2, V1. With such a configuration, Amplifier 1 would broadcast the Collision Alarm (A1) or the Chemical Alarm (A2) to the loudspeakers connected to it if either one was activated. In addition, the audio on Voice Channel 1 (i.e. the audio from any Mic Station connected with the group select switch connected to the V1 line activated) would also be broadcast to the connected loudspeakers. If either of the alarms were activated while a V1 announcement was in progress, the alarm signal would override the voice announcement. If both of the alarm were active simultaneously, the Collision Alarm (A1) would override the Chemical Alarm (A2).

Amplifier Sparing (Amplifiers 6 & 12)

Each Amplifier Chassis in the system can be configured with an automatic spare amplifier module (the spare *must* be in the right-most position in the chassis). The chassis is configured for Sparing Mode by toggling the DIP-switch on the back of chassis to the SPARE position (see Installation section for more information on setting DIP-switches). In addition, this amplifier (Amplifier 6 in Chassis 1 or Amplifier 12 in Chassis 2) should ***not*** be configured in the system and no loudspeakers should be connected to these amplifier outputs on the Ship's Wiring Board.

If a fault is detected in one of the amplifiers in the chassis (i.e. excessive temperature fault, no output fault, no response fault, or amplifier-not-present fault), the spare amplifier is automatically switched in for the amplifier with the fault. When the fault is removed, the spare amplifier is placed back into standby mode.

If there are multiple amplifier faults in the chassis, the spare will be switched in for the amplifier that is furthest to the left in the chassis.

This should be taken into consideration when deciding the position of each amplifier in the chassis.

Configuring the Amplifiers via the User Interface

This section describes the procedure for entering the amplifier configurations into the system using the User Interface.

First, make sure that the Main Menu (see top-most menu in Figure 1) is displayed on the User Interface. If it is not, press the softkeys labeled **Back** or **Esc** until the Main Menu is displayed.

From the Main Menu, press the softkey labeled **Conf**. As illustrated in Figure 1, the next screen to be displayed is the Pin-Entry Screen. Use the Scroll Knob to change the number of the first digit and, when the proper number is displayed, press the softkey labeled **>** to advance to the next digit. After all digits are entered, press the softkey labeled **Enter**. Entry of the proper PIN number should result in the Configuration Menu being displayed.

The default PIN number for the system is 0000.

From the Configuration Menu, press the softkey labeled **Amp** to display the Amp Configuration Menu. Using the Scroll Knob, select the number of the amplifier (1-12) to configure and then press the softkey labeled **Select**.

The display should now read "Amp x" where x is the number of the amplifier selected to configure. Using the Scroll Knob, select each Alarm Channel or Voice Channel to be broadcast through the selected amplifier. After the desired Alarm Channel or Voice Channel is shown, press the softkey labeled **Enter**.

Note that the first selection that appears when the scroll knob is turned is labeled "AL". If **Enter** is pressed while this selection is displayed, the selected amplifier will be configured for ***all*** Alarm and Voice Channels.

After all entries have been made, press the softkey labeled **Back**. Use the softkey labeled **Clr** to clear all Alarm/Voice Channels from the selected amplifier.

Note that the configuration information is stored in non-volatile memory and will be retained even if power to the system is lost.

Configuring the Mic Station Priority via the User Interface

Each of the 16 possible Mic Stations has a priority configuration parameter that can be adjusted via the User Interface. Configuring a Mic Station to HIGH priority will allow it to override announcements that are in progress from a LOW priority Mic Station. Please note that this overriding works for the entire Voice Channel "block".

For example, assume that an announcement is in progress from LOW priority Mic Station 2 on Voice Channel V2. If Mic Station 1 is configured for HIGH priority and an announcement is made from it on Voice Channel V1, remembering that V1 and V2 are both part of Block 1, the announcement from Mic Station 1 will override (cut off) the announcement from Mic Station 2. As soon as HIGH priority Mic Station 1 releases its PTT, the announcement from Mic Station 2 will be allowed to resume.

To configure the Mic Stations from the User Interface, follow the procedure in the previous section (Configuring the Amplifiers via the User Interface) to get to the Configuration Menu. Use the Scroll Knob to access more selections on the Configuration Menu, then press the softkey labeled **Mic** to display the Mic Station Configuration Menu. Using the Scroll Knob, select the Mic Station (1-16) to configure and press the softkey labeled **Select**.

The display should now read "Mic x" where x is the number of the Mic Station selected to configure. Using the Scroll Knob, select either HI or LO priority for the selected Mic Station and press the softkey labeled **Enter**.

Note that the configuration information is stored in non-volatile memory and will be retained even if power to the system is lost.

Configuring the Alarm Generator via the User Interface

As described in the Integrated Announcing System Components section, the Main/Amplifier Interface Module contains two redundant Alarm Generators. The user has the ability to test either Alarm Generator (provided an alarm is not active) and can also switch from one Alarm Generator to the other (even if an alarm is active).

Using the User Interface, the user can select which of the two Alarm Generators is "active" (i.e. which Alarm Generator will be used to generate alarms for broadcast to the system). To change the active Alarm Generator, follow the procedure in the Configuring the Amplifiers via the User Interface section to get to the Configuration Menu. Press the softkey labeled **Agen** to display the Alarm Generator Configuration Menu.

Using the Scroll Knob, select Alarm Generator 1 or 2 and press the softkey labeled **Select**.

Note that the configuration information is stored in non-volatile memory and will be retained even if power to the system is lost.

To change the PIN number required to access the Configuration Menu, follow the procedure in the Configuring the Amplifiers via the User Interface section to get to the Configuration Menu (obviously, the current PIN number must be known to change it).

The default PIN number for the system is 0000.

Use the Scroll Knob to access more selections on the Configuration Menu and press the softkey labeled **Pin** to display the PIN Assignment Menu. Use the Scroll Knob to dial up the number (0-9) for each digit and press the softkey labeled **>** to proceed to the next digit. Press the softkey labeled **Enter** when the new 4-digit PIN number is complete.

Once the system is configured, it may be desirable to review the system configuration. This can be accomplished by pressing the softkey labeled **Review** from the Main Menu (press the softkeys labeled **Back** or **Esc** until the Main Menu is displayed).

The System Review Menu will then be displayed with the options **Esc**, **Agen**, and **Amp**. Pressing the softkey labeled **Agen** will allow the user to see which Alarm Generator (1 or 2) is set as the "active" generator (which will be used to generate system alarms if activated).

Pressing the softkey labeled **Amp** will allow the user to review an amplifier configuration. On the Amp Selection Screen, use the Scroll Knob to select the amplifier (1-12) to review and press the softkey labeled **Select**. The Amp Review Screen should then be displayed which shows "Amp x:", where x is the number of the selected amplifier, followed by a list of the Alarm Channels and Voice Channels assigned to that amplifier.

If the Scroll Knob is rotated on the System Review Menu, additional options **Esc** and **Mic** will be displayed. Press the softkey labeled **Mic** will allow the user to review a Mic Station configuration. On the Mic Station Selection Screen, use the Scroll Knob to select a mic station (1-16) to review and press the softkey labeled **Select**. The Mic Station Review Screen should then be displayed which shows "Mic x:", where x is the number of the selected Mic Station, followed by HI or LO indicating the priority level assigned to that mic station.

Testing the System

The Integrated Announcing System has several self-test features built into it to provide continuous, reliable operation. Several of the built-in test mechanisms are run automatically and faults observed can be reported to the user immediately via the User Interface.

The Main/Amplifier Interface Module communicates periodically with each Amplifier Chassis in an effort to determine system status. On the Main Menu of the User Interface, the total number of system faults present is reported and the details each fault are displayed in a rotating fashion (i.e. fault 1 is displayed for 1 second, the next fault is displayed for 1 second, eventually rotating back to fault 1).

The fault messages that may be observed include the following:

Fault Message	Description
Bckpln x Not Present	where x=1 or 2 indicating absence of communication with Bckpln x
Amp x Not In Slot	where x=1-6 indicating no amplifier detected in Slot x
Amp x Communication Error	where x=1-6 indicating inability to communicate with amplifier in Slot x (amplifier could be powered down)
Amp x Overload	where x=1-6 indicating an overload (load > 250W) detected on amplifier in Slot x
Amp x Short	where x=1-6 indicating a short circuit detected on amplifier in Slot x
Amp x Ex. Temp	where x=1-6 indicating excessive temperature detected on amplifier in Slot x

Please note that an update to the displayed diagnostic messages may not occur immediately upon changing an element in the system (i.e. powering up an amplifier, swapping out an amplifier, etc.). In order to force an update to the diagnostics, press one of the softkeys to exit the Main Menu, then press the softkey labeled **Esc** to return to the Main Menu.

Returning to the Main Menu forces the system to update the diagnostic messages.

Testing the Alarm Generators

The system also provides a way to test either Alarm Generator. Please note that testing of either Alarm Generator can only be performed when there is no active alarm (i.e. no alarm being broadcast).

To test an Alarm Generator, start at the Main Menu (press the softkeys labeled **Back** or **Esc** until the Main Menu is displayed). On the Main Menu, press the softkey labeled **Test** to enter the Test Menu. On the Test Menu, press the softkey labeled **Agen** to display the Alarm Generator Test Selection screen. Use the Scroll Knob to select Alarm Generator 1 or 2 and press the softkey labeled **Select** to display to Alarm Selection screen. Use the Scroll Knob here to select the specific alarm signal (1-5) to test (i.e. 1=Collision, 2=Chemical, 3=General, 4=Unassigned, 5=Flight Crash) then press the softkey labeled **Select**.

The selected alarm signal will then be generated by the selected Alarm Generator and routed to the loudspeaker on the User Interface. In addition, the Bargraph display will display the peak level of alarm signal. Verify that the peak level illuminates at least one of the green LED's. Press the softkey labeled **Done** to complete the testing of the Alarm Generator.

Each Amplifier Module (60173-350) has 3 indicator lights (Figure 4 below) which provide a general indication of the module's status.

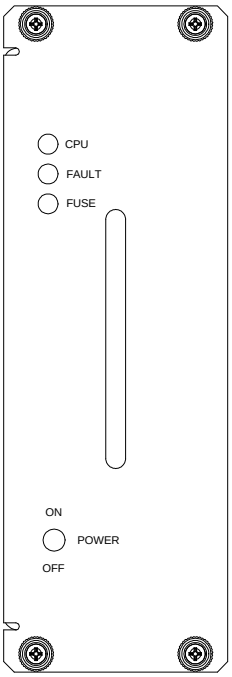


Figure 4 : Amplifier Module Front Panel

The upper-most indicator light, labeled **CPU**, provides an indication that amplifier's microprocessor is running. When the unit is functioning normally, this indicator light should flash on and off once per second. The middle indicator light, labeled **FAULT**, provides an indication of the presence of *any* fault in the amplifier (the specific details of the fault can be obtained using the Amplifier Test method described below). The bottom-most indicator light, labeled **FUSE**, is an indication of the status of the fuse on the Amplifier Module. If this indicator light is illuminated, the Amplifier Module fuse should be replaced (note that the indicator light will be illuminated only when the Amplifier Module is plugged into the Amplifier Chassis).

The system also provides a way to test each Amplifier Module in the system. When an amplifier is tested, a test tone approximately 500ms in duration is generated and sent through the amplifier (and to the loudspeakers connected to it). This test tone is used to estimate the speaker load connected to the amplifier. After the approximate speaker load is calculated, the User Interface displays the status of the tested amplifier along with the approximate speaker load and heatsink temperature.

To test an Amplifier Module, start at the Main Menu (press the softkeys labeled **Back** or **Esc** until the Main Menu is displayed). On the Main Menu, press the softkey labeled **Test** to enter the Test Menu. On the Test Menu, press the softkey labeled **Amp** to display the Amplifier Test Selection screen. Use the Scroll Knob to select an amplifier module to test and press the softkey labeled **Select** to begin the test.

Auxiliary System Outputs

The system provides several auxiliary outputs that may be used for various functions.

Visual Indicator Output

This output is a 115VAC output signal provided from the Main/Amplifier Interface Module that can be used to power incandescent visual indicators of the alarm activation status. For alarm signals 1, 2, 4, and 5 (i.e. Collision Alarm, Chemical Alarm, Unassigned Alarm, and Flight Crash Alarm, respectively), the 115VAC is switched on continuously. For alarm signal 3 (General Alarm), the 115VAC is repeatedly switched on for 300ms and off for 300ms.

Note that this 115VAC is switched via relay directly from the input power connector on the Main/Amplifier Interface Module which is fused a 8A. This output signal can be accessed on the Visual Out + and – terminals (2 pairs of terminals) on the Aux Signal Interface connector on the Ship's Wiring Board.

The maximum visual indicator load is 7.5A

Entertainment System Attenuate

If a separate Entertainment System is used, it is usually desirable to attenuate the volume of its audio when a 1MC (Block 1) announcement is in progress. The Entertainment System Attenuate signal (accessible at the Ent. Sys. Atten + and – terminals on the Aux Signal Interface connector of the Ship's Wiring Board) is an isolated contact closure which can be connected to the Entertainment System to trigger the desired attenuation.

The ratings on this contact closure are 60V, 400mA MAX

Entertainment System Mute

If a separate Entertainment System is used, it is usually desirable to mute its audio when an alarm signal is active. The Entertainment System Mute signal (accessible at the Ent. Sys. Mute + and – terminals on the Aux Signal Interface connector of the Ship's Wiring Board) is an isolated contact closure which can be connected to the Entertainment System to trigger the desired muting.

The ratings on this contact closure are 60V, 400mA MAX

Alarm Active

This is an isolated contact closure which is identical in function to the Entertainment System Mute signal. It simply provides a way to inform an auxiliary piece of equipment that an announcing system alarm is in progress. This signal is accessible at the Alarm Active + and – terminals on the Aux Signal Interface connector of the Ship's Wiring Board.

The ratings on this contact closure are 60V, 400mA MAX

Alarm Operation

Alarms are generated by the Alarm Generator configured to be the "active" generator (see the Configuring the Alarm Generator via the User Interface section on page 18).

Each alarm, with the exception of the General alarm, will remain active for the duration in which a contactor connected to the corresponding terminals on P33 is in the active position. The General Alarm is activated for 15-second intervals. For example, if a General Alarm contactor is activated momentarily and then de-activated, the General Alarm will still sound for 15 seconds from the time that the contactor was activated. If a General Alarm contactor is activated for 16 seconds before being de-activated, the General Alarm will sound for a total of 30 seconds from the time that the contactor was activated.

See the Installation section for details on connecting alarm contactors to the system.

PBX Interface Operation

If the system is configured with a PBX/IVCS Modem Interface Module (60173-445), up to 6 analog (POTS) phone lines can be connected to the system for making 1MC (Block 1) announcements through a PBX. The PBX interface is pre-configured to duplicate the functionality of the IVCS Modem from the perspective of which announcing groups are selected when a phone call is placed into each line.

The system is configured for the following:

Phone Line called in to	**Announcing Groups activated**
1 (connected to P35 terminals 1 and 2)	All Call (V1 – V6 activated)
2 (connected to P35 terminals 3 and 4)	V2, V3, V4, V5, and V6
3 (connected to P35 terminals 5 and 6)	V4 and V5
4 (connected to P35 terminals 7 and 8)	V6
5 (connected to P35 terminals 9 and 10)	V3
6 (connected to P35 terminals 11 and 12)	V1

If Block 1 is busy when a call is placed into any of the 6 line interfaces, the user will receive a busy signal. For this reason, only one call can be placed at a time through the PBX interface. If an announcement is in progress through one of the 6 line interfaces and a different user attempts to call that or any other line, the user will receive a busy signal.

See the Installation section for details on connecting analog phone lines to the system.

If the system is configured with a PBX/IVCS Modem Interface Module (60173-445), connections can be made to a Modified IVCS Modem (62300-127-1) for making announcements through an AN/STC-2 switchboard. Note that the modification to the standard 62300-127 involves the diode reversal which was necessary to allow the IVCS Modem to function correctly with the AN/SIA-114B system.

The IVCS modem operates in a fashion very similar to that described in the PBX Interface Operation section on the previous page. Six phone lines from an AN/STC-2 switchboard can be connected to the IVCS Modem. If a call is received on one of the lines, the IVCS Modem activates the appropriate relays to activate one or more 1MC (Block 1) announcing groups. The default setup for the IVCS Modem is for the group selections shown on the table in the PBX Interface Operation section on the previous page although this configuration can be changed with the addition or removal of diodes.

The Integrated Announcing System provides power to and interprets the signaling from the IVCS Modem to determine which announcing groups are being activated. The IVCS Modem incorporates a relay which provides a busy closure to indicate if 1MC (Block 1) is busy. This relay is controlled by circuitry in the PBX/IVCS Modem Interface Module and is configured to be activated when Block 1 is busy.

A DIP-switch setting internal to the PBX/IVCS Modem Interface Module can be changed so this busy relay is activated when a block other than Block 1 is busy. The figure below indicates the position of this DIP-switch on the PBX/IVCS Modem Interface Module PCB assembly (60173-440).

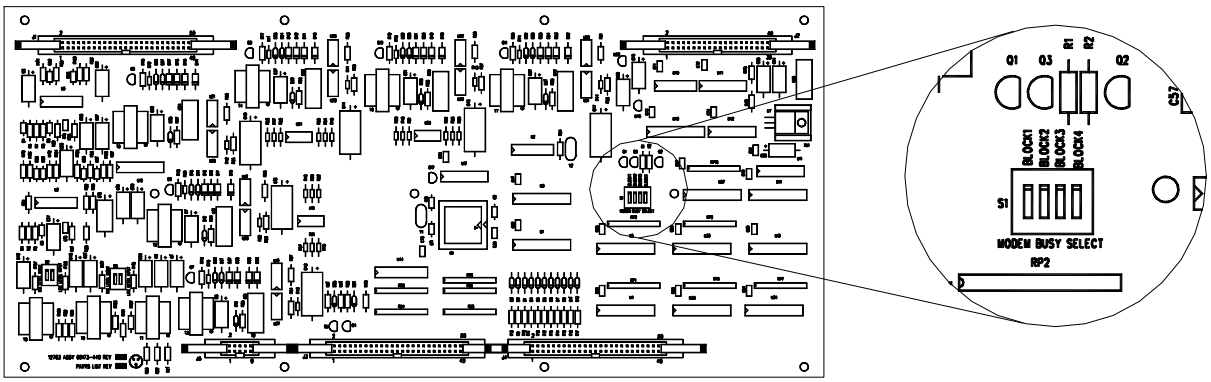


Figure 5 : PBX/IVCS Modem PCB Detail showing Modem Busy Select DIP-switch

Suggested Configurations for Legacy-type Applications

The sections below outline suggested configurations for systems previously handled by Legacy equipment. Please note that these are only suggested configurations and, by no means, are the only way to configure the system.

Suggested Configuration for an AN/SIA-114B Application

In a standard AN/SIA-114B Legacy system, one half of the AM-2316 amplifier (500W) is dedicated to the five 1MC announcing groups (i.e. Officers, Topside, Crew, Engineering Spaces, and Spare). For the sake of simplicity, assume that each of these announcing groups contains a maximum of 250W of loudspeakers.

Amplifier Chassis 1 is configured with 6 amplifiers: Amplifier 1 (left-most) is connected to the Officers loudspeakers, Amplifier 2 is connected to the Topside loudspeakers, Amplifier 3 is connected to the Crew loudspeakers, Amplifier 4 is connected to the Engineering Spaces loudspeakers, and Amplifier 5 is connected to the Spare loudspeakers. These connections can be made at either of the two Amp Chassis 1 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 6 (right-most) is configured as a spare (by placing the DIP-switch on the rear of Amplifier Chassis 1 in the SPARE position) for the five 1MC amplifiers and, as mentioned in the Amplifier Sparing section, no connections should be made to the Amp 6 Out terminals on the above-mentioned Euroblock connector.

As described in the Voice Channel "Blocks" section, these 5 announcing groups (i.e. Officers, Topside, Crew, Engineering Spaces, and Spare) should be assigned to 5 of the Voice Channels in Block 1 (since Block 1 is the only block in the default system large enough to accommodate 5 announcing groups). Consider assigning the Officers announcing group to V1, the Topside announcing group to V2, the Crew announcing group to V3, the Engineering Spaces announcing group to V4, and the Spare announcing group to V5.

Note that, in a standard AN/SIA-114B system, the five alarm signals are broadcast to the 1MC speakers. This means that, in this system, all five alarm signals need to be assigned to each of the 1MC amplifiers (Amplifiers 1-5).

Using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifiers 1-5 in the following manner:

Amp 1:	A1	A2	A3	A4	A5	V1
Amp 2:	A1	A2	A3	A4	A5	V2
Amp 3:	A1	A2	A3	A4	A5	V3
Amp 4:	A1	A2	A3	A4	A5	V4
Amp 5:	A1	A2	A3	A4	A5	V5

On the Mic Station side, IC/MSB-2 Mic Control Stations with an Officers group select switch should connect the line associated with that switch to the V1 terminal on the Euroblock connector for that Mic Station. Similarly, the Topside group select switch

should be connected to the V2 terminal, the Crew group select switch should be connected to the V3 terminal, the Engineering Spaces group select switch should be connected to the V4 terminal, and the Spare group select switch should be connected to the V5 terminal. If an IC/MJB-2 Jackbox or M-136A/SIC Microphone is used, the PTT line should be jumpered to the terminal on the Euroblock connector associated with the announcing group to be accessed. The 1MC BUSY lamp on each mic station should be connected to the Block 1 busy signal on the associated Mic Station Euroblock connector on the Ship's Wiring Board.

With the configuration outlined above, a Mic Station selecting the Officers group select switch will have its audio routed to the input of Amplifier 1 (the Officers amplifier) to be broadcast to the Officers loudspeakers. If more than one group is selected at a Mic Station, the audio from that mic station will be routed to all of the amplifiers associated with the selected groups.

The configuration above also routes any active alarm to all five 1MC amplifiers and an active alarm will override a voice announcement in progress on any of the amplifiers. If multiple alarms are active, only the highest priority alarm will be broadcast.

In a standard AN/SIA-114B system, the other half of the AM-2316 amplifier (500W) is dedicated to 6MC (Bullhorn) announcing. Assume that 500W is needed for the 6MC-announcing group in this system.

Amplifier Chassis 2 is configured with 3 amplifiers: Amplifier 7 (left-most) is for one half of the 500W 6MC load and Amplifier 8 is for the second half. These connections can be made at either of the two Amp Chassis 2 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 12 (right-most) is configured as a spare (by placing the DIP-switch on the rear of Amplifier Chassis 2 in the SPARE position) for the 6MC amplifiers and, as mentioned in the Amplifier Sparing section, no connections should be made to the Amp 12 Out terminals on the above-mentioned Euroblock connector.

Since the 6MC system operates independently from the other announcing groups, little concern is needed for where the 6MC Voice Channel is placed in terms of priority. Consider using V9 (which is the only Voice Channel in Block 3) for 6MC announcements.

In a standard AN/SIA-114B system, none of the alarms are broadcast to the 6MC speakers. So, using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifiers 7 and 8 in the following manner:

Amp 7:	V9
Amp 8:	V9

On the Mic Station side, IC/MSB-2 Mic Control Stations with a Bullhorn group select switch should connect the line associated with that switch to the V9 terminal on the Euroblock connector for that Mic Station. The 6MC BUSY lamp on each mic station should be connected to the Block 3 busy signal on the associated Mic Station Euroblock connector on the Ship's Wiring Board.

In a standard AN/SIA-117B Legacy system, multiple AM-2316 amplifiers are used to address four 1MC announcing groups (i.e. Officers, Topside, Crew, Engineering Spaces, and Spare), 2 1MC/3MC announcing groups (i.e. Flight Deck and Hangar Deck), and 2 "Emergency Alert" announcing groups which only receive alarm signals. For the sake of simplicity, assume that each of these announcing groups contains a maximum of 250W of loudspeakers.

Amplifier Chassis 1 is configured with 5 amplifiers: Amplifier 1 (left-most) is connected to the Officers loudspeakers, Amplifier 2 is connected to the Topside loudspeakers, Amplifier 3 is connected to the Crew loudspeakers, and Amplifier 4 is connected to the Engineering Spaces loudspeakers. These connections can be made at either of the two Amp Chassis 1 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 6 (right-most) is configured as a spare (by placing the DIP-switch on the rear of Amplifier Chassis 1 in the SPARE position) for the four 1MC amplifiers and, as mentioned in the Amplifier Sparing section, no connections should be made to the Amp 6 Out terminals on the above-mentioned Euroblock connector.

As described in the Voice Channel "Blocks" section, these 4 announcing groups (i.e. Officers, Topside, Crew, and Engineering Spaces) should be assigned to 4 of the Voice Channels in Block 1 (since Block 1 is the only block in the default system large enough to accommodate 4 announcing groups). Consider assigning the Officers announcing group to V1, the Topside announcing group to V2, the Crew announcing group to V3, and the Engineering Spaces announcing group to V4.

Note that, in a standard AN/SIA-117B system, the five alarm signals are broadcast to the 1MC speakers. This means that, in this system, all five alarm signals need to be assigned to each of the 1MC amplifiers (Amplifiers 1-4).

Using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifiers 1-4 in the following manner:

Amp 1:	A1	A2	A3	A4	A5	V1
Amp 2:	A1	A2	A3	A4	A5	V2
Amp 3:	A1	A2	A3	A4	A5	V3
Amp 4:	A1	A2	A3	A4	A5	V4

On the Mic Station side, IC/MSB-2 Mic Control Stations with an Officers group select switch should connect the line associated with that switch to the V1 terminal on the Euroblock connector for that Mic Station. Similarly, the Topside group select switch should be connected to the V2 terminal, the Crew group select switch should be connected to the V3 terminal, and the Engineering Spaces group select switch should be connected to the V4 terminal. If an IC/MJB-2 Jackbox or M-136A/SIC Microphone is used, the PTT line should be jumpered to the terminal on the Euroblock connector associated with the announcing group to be accessed. The 1MC BUSY lamp on each mic station should be connected to the Block 1 busy signal on the associated Mic Station Euroblock connector on the Ship's Wiring Board.

With the configuration outlined above, a Mic Station selecting the Officers group select switch will have its audio routed to the input of Amplifier 1 (the Officers amplifier) to be broadcast to the Officers loudspeakers. If more than one group is selected at a Mic Station, the audio from that mic station will be routed to all of the amplifiers associated with the selected groups.

The configuration above also routes any active alarm to all five 1MC amplifiers and an active alarm will override a voice announcement in progress on any of the amplifiers. If multiple alarms are active, only the highest priority alarm will be broadcast.

The standard AN/SIA-117B system also accommodates two 1MC/3MC announcing groups (i.e. Flight Deck and Hangar Deck groups). These two groups receive the corresponding 3MC announcements from Mic Stations selecting the Flight Deck or Hangar Deck groups. However, any 1MC announcement in progress overrides the 3MC announcement at these loudspeakers. For the sake of simplicity, assume that each of these 3MC announcing groups contains a maximum of 250W of loudspeakers.

Amplifier Chassis 2 will consist of 4 amplifiers. Amplifier 7 (left-most) is connected to the Flight Deck loudspeakers, Amplifier 8 is connected to the Hangar Deck loudspeakers, and Amplifier 9 is connected to the Emergency Alert loudspeakers (see section below). These connections can be made at either of the two Amp Chassis 2 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 12 (right-most) is configured as a spare (by placing the DIP-switch on the rear of Amplifier Chassis 2 in the SPARE position) for Amplifiers 7-9 and, as mentioned in the Amplifier Sparing section, no connections should be made to the Amp 12 Out terminals on the above-mentioned Euroblock connector.

In this case, the 2 announcing groups (i.e. Flight Deck and Hangar Deck) should be assigned to the 2 Voice Channels in Block 2 (Block 2 consists of Voice Channels V7 and V8). Consider assigning the Flight Deck announcing group to V7 and the Hangar Deck announcing group to V8.

Note that, in a standard AN/SIA-117B system, the five alarm signals are also broadcast to these 1MC/3MC speakers. This means that, in this system, all five alarm signals need to be assigned to each of the 1MC/3MC amplifiers (Amplifiers 7 & 8).

Using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifiers 7 & 8 in the following manner:

Amp 7:	A1	A2	A3	A4	A5	V1	V2	V3	V4	V7
Amp 8:	A1	A2	A3	A4	A5	V1	V2	V3	V4	V8

On the Mic Station side, IC/MSB-2 Mic Control Stations with a Flight Deck group select switch should connect the line associated with that switch to the V7 terminal on the Euroblock connector for that Mic Station. Similarly, the Hangar Deck group select switch should be connected to the V8 terminal. If an IC/MJB-2 Jackbox or M-136A/SIC Microphone is used, the PTT line should be jumpered to the terminal on the Euroblock connector associated with the announcing group to be accessed. The 3MC BUSY lamp on each mic station should be connected to the Block 2 busy signal on the associated Mic Station Euroblock connector on the Ship's Wiring Board.

With the configuration outlined above, a Mic Station selecting the Flight Deck group select switch will have its audio routed to the input of Amplifier 7 (the Flight Deck amplifier) to be broadcast to the Flight Deck loudspeakers. If more than one group is selected at a Mic Station, the audio from that mic station will be routed to all of the amplifiers associated with the selected groups. If a 1MC announcement is activated, it will override a 3MC announcement in progress at these loudspeaker groups (since the 1MC Voice Channels [V1-V4] are higher priority than the 3MC Voice Channels [V7 & V8]). This configuration also routes any active alarm to both 1MC/3MC amplifiers and overrides any voice announcement in progress on any of the amplifiers. If multiple alarms are active, only the highest priority alarm will be broadcast.

This leaves Amplifier 9 to configure. In the AN/SIA-117B, the Emergency Alert loudspeakers are placed amongst the 1MC Officers and Crew loudspeakers to provide emphasis in the event of an alarm signal. More specifically, these loudspeakers *only* broadcast alarm signals.

Using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifier 9 in the following manner:

Amp 9:	A1	A2	A3	A4	A5

With this configuration, any active alarm will be routed to the Emergency Alert loudspeakers connected to Amplifier 9.

In a standard AN/SIA-118A Legacy system, multiple AM-2316 amplifiers are used to address six 5MC announcing groups. Assume that each of these announcing groups contains a maximum of 500W of loudspeakers.

Amplifier Chassis 1 is configured with 6 amplifiers: Amplifiers 1 (left-most) and 2 are connected to 5MC announcing group 1 (5MC1) loudspeakers, Amplifiers 3 and 4 are connected to 5MC2 loudspeakers, and Amplifiers 5 and 6 (right-most) are connected to 5MC3 loudspeakers. These connections can be made at either of the two Amp Chassis 1 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 6 (right-most) is configured as an independent amplifier in this configuration (by placing the DIP-switch on the rear of Amplifier Chassis 1 in the NO SPARE position).

Amplifier Chassis 2 is also configured with 6 amplifiers: Amplifiers 7 (left-most) and 8 are connected to 5MC announcing group 4 (5MC4) loudspeakers, Amplifiers 9 and 10 are connected to 5MC5 loudspeakers, and Amplifiers 11 and 12 (right-most) are connected to 5MC6 loudspeakers. These connections can be made at either of the two Amp Chassis 2 Outputs Euroblock connectors on the Ship's Wiring Board. Amplifier 12 (right-most) is configured as an independent amplifier in this configuration (by placing the DIP-switch on the rear of Amplifier Chassis 2 in the NO SPARE position).

As described in the Voice Channel "Blocks" section, these 6 announcing groups should be assigned to the 6 Voice Channels in Block 1 (since Block 1 is the only block in the default system large enough to accommodate all 6 announcing groups). Consider assigning the 5MC1 announcing group to V1, the 5MC2 announcing group to V2, the 5MC3 announcing group to V3, the 5MC4 announcing group to V4, the 5MC5 announcing group to V5, and the 5MC6 announcing group to V5.

Note that, in a standard AN/SIA-118A system, the five alarm signals are broadcast to the 5MC speakers. This means that, in this system, all five alarm signals need to be assigned to each of the 5MC amplifiers (Amplifiers 1-12).

Using the procedure outlined in the Configuring the Amplifiers via the User Interface section, configure Amplifiers 1-12 in the following manner:

Amp 1:	A1	A2	A3	A4	A5	V1
Amp 2:	A1	A2	A3	A4	A5	V1
Amp 3:	A1	A2	A3	A4	A5	V2
Amp 4:	A1	A2	A3	A4	A5	V2
Amp 5:	A1	A2	A3	A4	A5	V3
Amp 6:	A1	A2	A3	A4	A5	V3
Amp 7:	A1	A2	A3	A4	A5	V4
Amp 8:	A1	A2	A3	A4	A5	V4
Amp 9:	A1	A2	A3	A4	A5	V5
Amp 10:	A1	A2	A3	A4	A5	V5
Amp 11:	A1	A2	A3	A4	A5	V6
Amp 12:	A1	A2	A3	A4	A5	V6

On the Mic Station side, IC/MSB-2 Mic Control Stations with a 5MC1 group select switch should connect the line associated with that switch to the V1 terminal on the Euroblock connector for that Mic Station. Similarly, the 5MC2 group select switch should be connected to the V2 terminal, the 5MC3 group select switch should be connected to the V3 terminal, the 5MC4 group select switch should be connected to the V4 terminal, the 5MC5 group select switch should be connected to the V5 terminal, and the 5MC6 group select switch should be connected to the V6 terminal. If an IC/MJB-2 Jackbox or M-136A/SIC Microphone is used, the PTT line should be jumpered to the terminal on the Euroblock connector associated with the announcing group to be accessed. The 5MC BUSY lamp on each mic station should be connected to the Block 1 busy signal on the associated Mic Station Euroblock connector on the Ship's Wiring Board.

With the configuration outlined above, a Mic Station selecting the 5MC1 group select switch will have its audio routed to the input of Amplifier 1 (the 5MC1 amplifier) to be broadcast to the 5MC1 loudspeakers. If more than one group is selected at a Mic Station, the audio from that mic station will be routed to all of the amplifiers associated with the selected groups. This configuration also routes any active alarm to all 5MC amplifiers and overrides any voice announcement in progress on any of the amplifiers. If multiple alarms are active, only the highest priority alarm will be broadcast.

Top Level System Parts List

This section contains the parts list for the 60173-200-01 Integrated Announcing System rack configuration. This configuration consists of the following system components:

(1) Ship's Wiring Tray (Assembly A1)

(1) Main/Amp Interface Module (Assembly A2)

(3) Mic Interface Modules (Assemblies A3, A4, and A11)

(1) PBX/IVCS Modem Interface Module (Assembly A5)

(2) Amplifier Chassis with 12 Amp Modules each (Assemblies A6 and A12)

(2) Fan Trays (Assemblies A8 and A9)

(1) Auxiliary Amp Interface Module (Assembly A13)

Depending on the configuration of each particular system, some or all of these components may or may not be included in the top-level system parts list.

Please refer to Figures 6, 7, and 8 for locations of each of the components shown on the following parts list.

PARTS LIST

11/01/2001

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-200-01
RACK ASSY, 12A, 2AC, 3M, 1P
CAGE : 12763

REVLTR : A
REVDATE : 09/14/2001
ORIGDATE : 09/14/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-205	1		12763			ENCLOSURE ASSEMBLY	X	B		62
	2	60173-206	2		12763			RAIL FRONT LEFT	X	A		69
	3	60173-208	2		12763			RAIL REAR	X	A		69
	4	60173-207	2		12763			RAIL MID	X	A		69
	5	60173-209-01	2		12763			BLANK PANEL 1RU	X	A		69
	6	60173-243	1		12763			PANEL, ACCESS	X	A		69
	7	60173-244	1		12763			ENCLOSURE, FILTER	X	A		62
	8	60173-212	1		12763			ACCESS PANEL I/O	X	A		69
	9	60173-213	4		12763			ACCESS PANEL, LOUVERED SIDES	X	A		62
	10	60173-214	2		12763			ACCESS PANEL, SIDE	X	A		69
	11	60173-215	8		12763			SCREEN, ACCESS PANEL	X	A		69
	12	60173-216	48		12763			RETAINER, ACCESS PNL	X	A		69
	14	60173-217-02	2		12763			CHASSIS SUPPORT I/F	X	A		62
	15	60173-218	8		12763			CHASSIS SUPPORT, 1RU SHORT	X	A		69
	16	60173-219	4		12763			CHASSIS SUPPORT, 2RU LONG	X	A		69
	18	60173-221	8		12763			CHASSIS SUPPORT, CARD CAGE	X	A		62
	21	60173-224-01	6		12763			CABLE BAR, LONG	X	A		69
	23	60173-227	1		12763			DOOR SUPPORT, 1RU	X	A		62
	24	60173-228	1		12763			DOOR	X	A		62
	25	60173-229	1		12763			GASKET, DOOR	X	A		69
	26	60173-230-01	1		12763			HINGE, RACK, TOP	X	A		62
	27	60173-230-02	1		12763			HINGE, RACK, BOTTOM	X	A		62
	28	60173-231	2		12763			HINGE, DOOR	X	A		69
	29	60173-232	3		12763			SCREW, DOOR	X	A		69
	30	60173-233	1		12763			BRACKET, DOOR	X	A		62
	31	60173-234	1		12763			SLIDE, DOOR	X	A		62

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

PARTS LIST

Enditem : 60173-200-01
RACK ASSY, 12A, 2AC, 3M, 1P
CAGE : 12763

REVLTR : A
REVDATE : 09/14/2001
ORIGDATE : 09/14/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	32	60173-235	1		12763			BRACE, DOOR	X	A		69
	34	60173-236	2	A8,A9	12763			FAN TRAY ASSEMBLY	X	A		60
	35	60173-435	1	A1	12763			SHIPS WIRING TRAY ASSEMBLY	X	A		60
	36	60173-241	1		12763			FRONT PANEL, 6RU I/F ACCESS	X	A		62
	37	60173-415	1	A2	12763			MAIN AMP I/F ASSEMBLY	X	A		60
	38	60173-425	3	A3,A4,A11	12763			MIC I/F ASSEMBLY	X	A		60
	39	60173-445	1	A5	12763			PBX/ENT/IVCS I/F ASSEMBLY	X	A		60
	40	60173-300	2	A6,A12	12763			CHASSIS ASSEMBLY, AMPLIFIER	X	A		60
	41	60173-209-02	1		12763			BLANK PANEL 2RU	X	A		69
	43	60173-350	12		12763			AMPLIFIER MODULE, 250 W	X	A		60
	44	14108-045	1	FL1		FN 350-55/33		FILTER, LINE, 55A	X			69
	47	12203-006	45		96906	MS35338-139	FF-W-84	WSHR,LOCK 1/4				69
	48	12211-010	45		96906	MS15795-810	FF-W-92	WSHR,FLAT 1/4,.625 OD .065 THK				69
	49	12145-004	20		96906	MS35307-305	FF-S-85	SCR,MACH-HEXHD 1/4-20 X 5/8				69
	50	12130-003	136		96906	MS51957-45	FF-S-92	SCR,MACH-PNH,XREC 8-32 X 1/2				69
	51	12203-004	139		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	52	12211-007	135		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	53	60173-239	42			HW-200		PANEL SCREW 10-32 X 5/8	X			69
	54	12211-003	104		96906	MS15795-803	FF-W-92	WSHR,FLAT #4 .250 OD .022 THK				69
	55	12203-002	104		96906	MS35338-135	FF-W-84	WSHR,LOCK #4 .025 THK .209 DIA				69
	56	12301-002	96		96906	MS35649-244	FF-N-836	NUT,PL,HEX 4-40 .093 THK				69
	57	14212-004	3		96906	MS16633-4025	MIL-R-21248	RTNG RING .250SH, .210G, .029W				69
	58	12205-006	3		96906	MS51859-6		WSHR,FLAT PLASTIC 1/4				69
	59	12667-003	68		96906	MS24693-C272	FF-S-92	SCR,MACH-FLH,XREC 10-32 X 1/2				69
	62	12140-003	7		96906	MS51958-63	FF-S-92	SCR,MACH-PNH,XREC 10-32 X 1/2				69
	63	12203-005	36		96906	MS35338-138	FF-W-84	WSHR,LOCK #10 .34OD, .05T				69

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

PARTS LIST

Enditem : 60173-200-01
RACK ASSY, 12A, 2AC, 3M, 1P
CAGE : 12763

REVLTR : A
REVDATE : 09/14/2001
ORIGDATE : 09/14/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	64	12211-008	15		96906	MS15795-808	FF-W-92	WSHR,FLAT #10 .438 OD, .05T				69
	66	60173-470	4	W1,W4,W7,W18		AK129-2		CABLE ASSY, RACK, MIC I/F	X			69
	67	60173-471	8	W2,W3,W5,W6,W8,W9,W19,W20	12763			CABLE ASSY, RACK, SWB I/F	X	A		69
	68	60173-472	1	W10	12763			CABLE ASSY, RACK, AUX SIG I/F	X	A	C2	60
	69	60173-473	2	W11,W21	12763			CABLE ASSY, RACK, AMP SIG I/F	X	A	C2	60
	70	60173-474	1	W12	12763			CABLE ASSY, RACK, SERIAL I/F	X	A	C2	60
	71	60173-475	1	W13	12763			CABLE ASSY, RACK, AN. BUS	X	A		69
	72	60173-476	1	W14	12763			CABLE ASSY, RACK, DIG. BUS	X	A		69
	73	60173-217-03	4		12763			CHASSIS SUPPORT I/F	X	A		62
	74	12301-005	58		96906	MS35650-304	FF-N-836	NUT,PL,HEX 10-32 .125 THK				69
	76	12667-005	2		96906	MS24693-C274	FF-S-92	SCR,MACH-FLH,XREC.190-32 X .75				69
	77	12140-004	10		96906	MS51958-64	FF-S-92	SCR,MACH-PNH,XREC 10-32 X 5/8				69
	79	60173-252	3			B-14		SPRING,OD.343, ID.253, 1"LG				69
	80	60173-250	2			HM06500-3A		HELICAL ISOLATOR, 1/2 WIRE RP	X			69
	81	60173-251	4			HM06500-4A		HELICAL ISOLATOR, 1/2 WIRE RP.	X			69
	82	60173-242	3		12763		QQ-A-200/8	MTG PLATE, ISOLATOR	X	A		69
	83	12184-009	24		96906	MS51960-88		SCREW 1/4-28 X 1 1/2 FH PHL				69
	84	12149-009	24		96906	MS35308-312	FF-S-92	SCR,CAP,HEX 1/4-28 X 1-1/2				69
	85	60173-257	1		39428	90298A574		SCREW, SHOULDER 5/16 X 1/4-20				69
	88	14155-104	1	4INCHES REQUIRED		GEE98-C		GROMMET EDGIN 071-098 V 100FT				69
	89	60173-482	1	A7	12763			DISTRIBUTION BOX ASSY	X			60
	90	15059-035	3	W15-W17		C3C-C2-2-	18/3SVT-4FT	CORD, POWER, IEC 4FT.	X			69
	91	60173-260	4		12763			GASKET, SIDE PANEL	X	A		69
	92	60173-261	2		12763			GASKET, SIDE PANEL	X	A		69
	93	60173-262	1		12763			GASKET, ACCESS PANEL	X	A		69
	94	60173-263	1		12763			GASKET, FILTER PANEL	X	A		69

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

PARTS LIST

Enditem : 60173-200-01
RACK ASSY, 12A, 2AC, 3M, 1P
CAGE : 12763

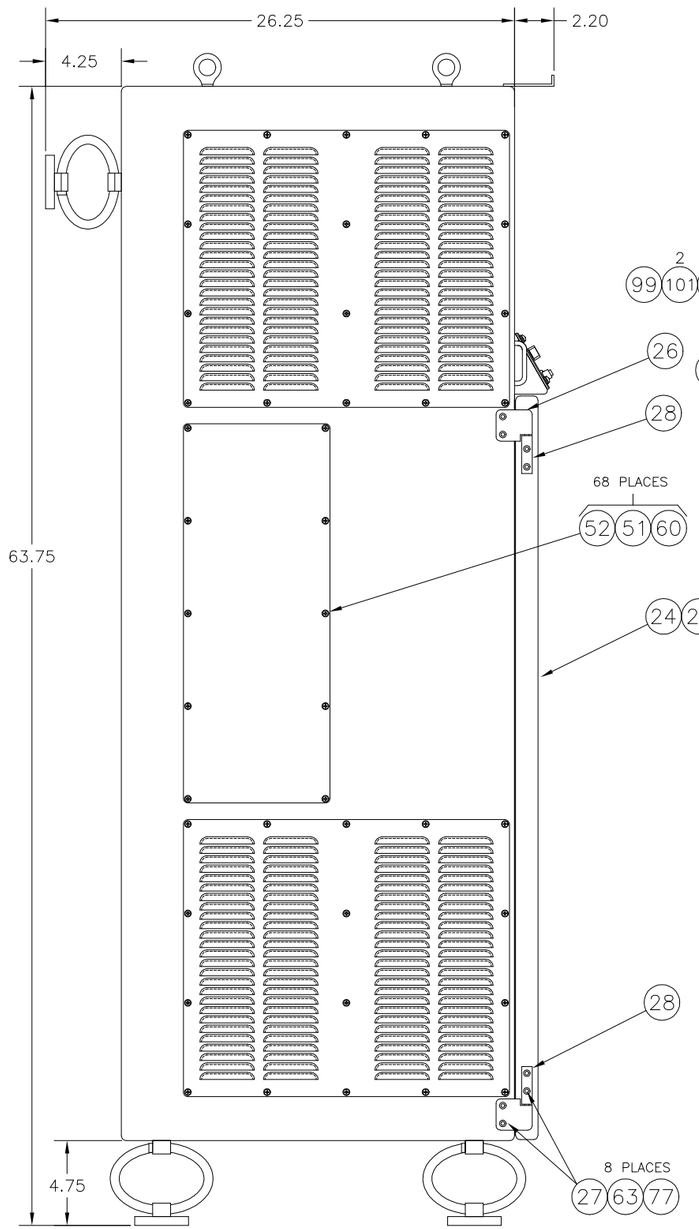
REVLTR : A
REVDATE : 09/14/2001
ORIGDATE : 09/14/2001
MANUF# :

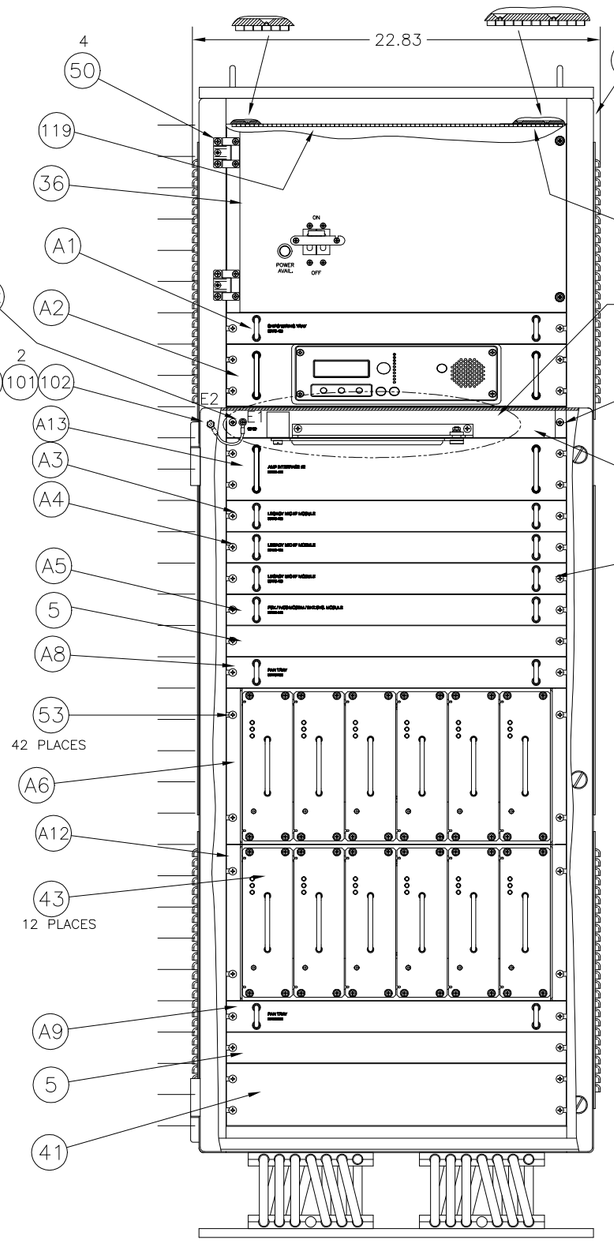
Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	95	66501-162	4		96906	MS51937-3C	MS51937	EYEBOLT 3/8-16				69
	96	12211-015	6		96906	MS15795-815	FF-W-92	WSHR,FLAT 3/8 1.000 OD				69
	97	12203-008	5		96906	MS35338-141	FF-W-84	WSHR,LOCK 3/8				69
	98	12301-008	5		96906	MS51971-3	FF-N-836	NUT,PL,HEX 3/8-16 .330 THK				69
	99	12119-002	1		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	100	12301-003	1		96906	MS35649-264	FF-N-836	NUT,PL,HEX 6-32 .108 THK				69
	101	12203-003	4		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	102	12211-005	2		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	103	60173-264	1		12763		MIL-P-15024	IDENTIFICATION PLATE	X	A		69
	104	66729-028	1		12763			ORDALT PLATE	X	-		69
	105	12108-001	8		96906	MS51957-13	FF-S-92	SCR,MACH-PNH,XREC 4-40 X 1/4				69
	106	12165-007	1		96906	MS35308-360	FF-S-92	SCR,MACH-HEX 3/8-24 X 1				69
	107	12301-004	7		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	108	66729-045	1		12763			CARD HOLDER	X	A		69
	109	14128-044	1		06383	TM3S10		TIE MOUNT #10				69
	110	60173-484	1		12763			JUMPER LIST, INPUT POWER	X	A	J1	60
	111	14117-020	1		86797	SIGMA-10ST		KNOB,CLAMP,1/4-20 X 1.0"LG BLK	X			69
	112	12306-006	1					NUT, ACORN, 1/4-20 NICK PLATE				69
	113	12301-006	1		96906	MS35649-2254	FF-N-836	NUT,PL,HEX 1/4-20 .185 THK				69
	114	60173-455	1	A13	12763			AMP I/F ASSEMBLY	X	A		60
	115	60173-477	1	W22		AK137-2		CABLE, RACK AMP CHASSIS	X			69

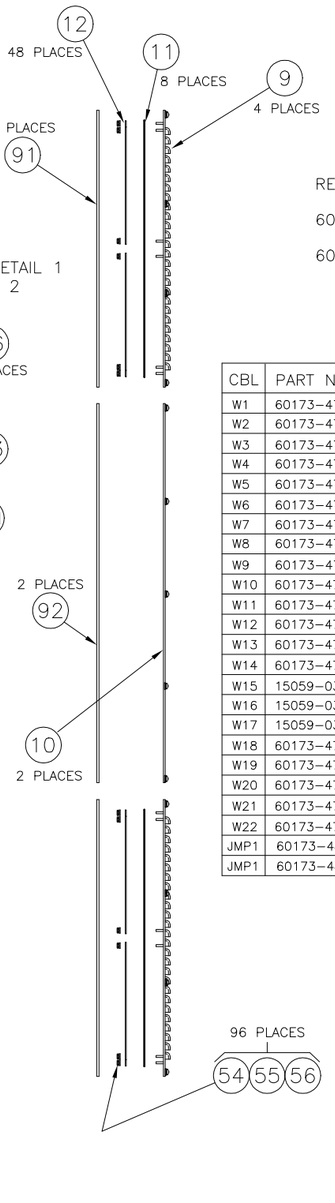
12763	DWG NO. 60173-200-01	SH 1	REV B

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	10/9/01	GBC
	B	ECN 4105	12/11/01	GBC







REF. DOCUMENTS:

60173-202 MOUNTING AND OUTLINE

60173-201-01 INTERCONNECT DIAGRAM

CBL	PART NO.	DESCRIPTION	FROM	TO
W1	60173-470	CABLE ASSY, RACK, MIC I/F	A1J45	A3J5
W2	60173-471	CABLE ASSY, RACK, SWB I/F	A1J46	A3J3
W3	60173-471	CABLE ASSY, RACK, SWB I/F	A1J47	A3J4
W4	60173-470	CABLE ASSY, RACK, MIC I/F	A1J48	A4J5
W5	60173-471	CABLE ASSY, RACK, SWB I/F	A1J49	A4J3
W6	60173-471	CABLE ASSY, RACK, SWB I/F	A1J50	A4J4
W7	60173-470	CABLE ASSY, RACK, MIC I/F	A1J54	A5J5
W8	60173-471	CABLE ASSY, RACK, SWB I/F	A1J55	A5J3
W9	60173-471	CABLE ASSY, RACK, SWB I/F	A1J56	A5J4
W10	60173-472	CABLE ASSY, RACK, AUX SIG I/F	A1J57	A2J6
W11	60173-473	CABLE ASSY, RACK, AMP SIG I/F	A1J58	A6J7-J12, A2J5
W12	60173-474	CABLE ASSY, RACK, SERIAL I/F	A2J3	A6J14
W13	60173-475	CABLE ASSY, RACK, ANALOG BUS	A2J1	A3J1, A4J1,A5J1
W14	60173-476	CABLE ASSY, RACK, DIGITAL BUS	A2J2	A3J2,A4J2,A5J2
W15	15059-035	CABLE, IEC, 4-FT.	A7J1	A2J7
W16	15059-035	CABLE, IEC, 4-FT.	A7J4	A8J1
W17	15059-035	CABLE, IEC, 4-FT.	A7J5	A9J1
W18	60173-470	CABLE ASSY, RACK, MIC I/F	A1J51	A11J5
W19	60173-471	CABLE ASSY, RACK, SWB I/F	A1J52	A11J3
W20	60173-471	CABLE ASSY, RACK, SWB I/F	A1J53	A11J4
W21	60173-473	CABLE ASSY, RACK,AMP SIG. I/F	A1J59	A12J7-J12,A13J5
W22	60173-477	CABLE ASSY, RACK, CHASSIS	A6J15	A12J14
JMP1	60173-484	INPUT POWER JUMPER LIST	FL1	A10CB1
JMP1	60173-484	INPUT POWER JUMPER LIST	A10CB1	A7TB1

DYNALEC PROPRIETARY DATA

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED, RELEASED, MODIFIED OR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF DYNALEC CORPORATION.

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\20001B1A.DWG SEE SEPERATE PARTS LIST

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES

FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°

MFG SPEC: ———

MATERIAL: ———

FINISH: ———

DRAWN DAPIER	DATE 10/9/01
CHECKED	
ENGINEER	
APPROVED	
CONTRACT NO.	REL DATE
DESIGN ACTIVITY APPROVAL	
APPROVAL	

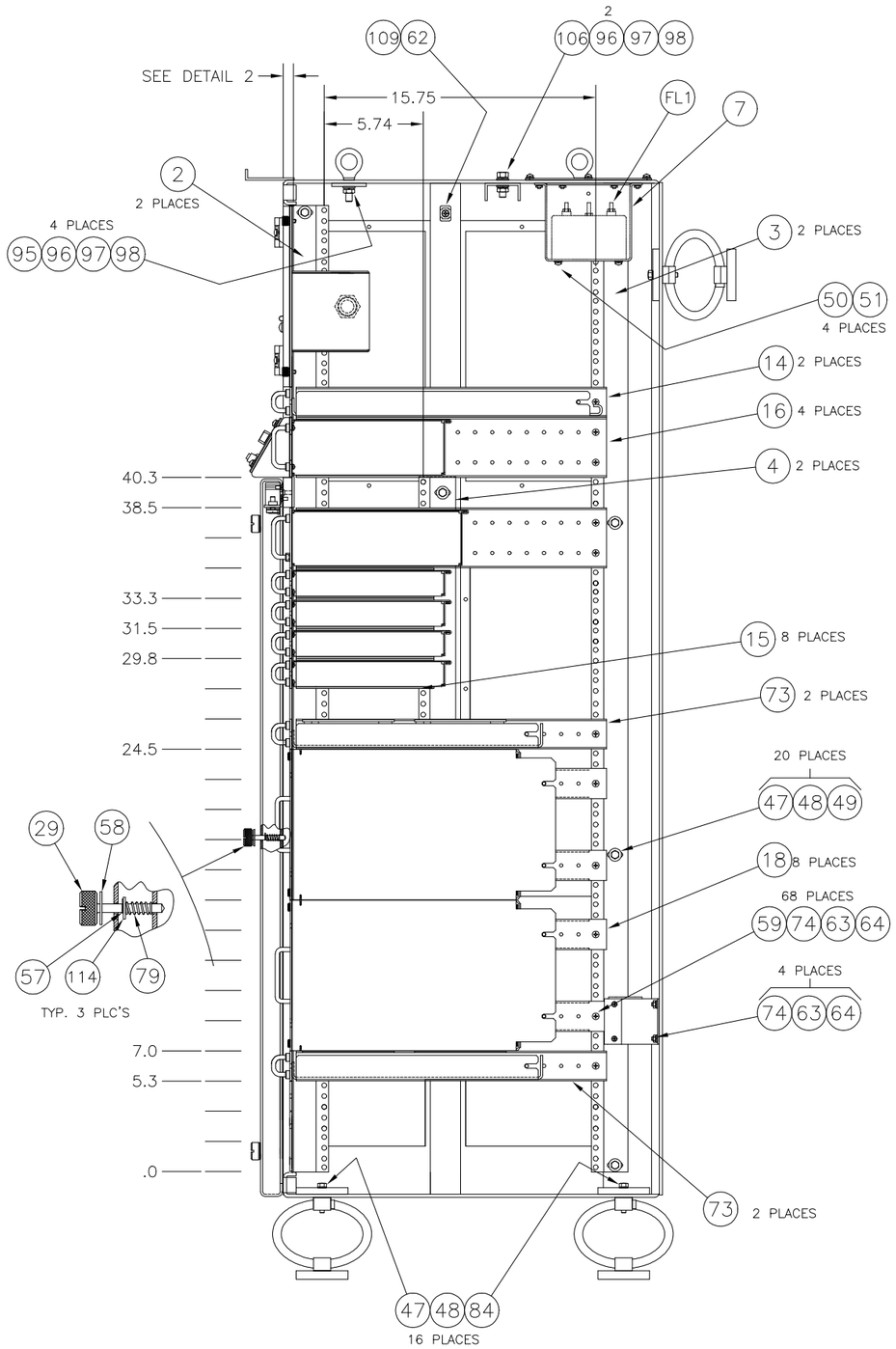
DYNALEC CORPORATION
SODUS, NEW YORK 14551

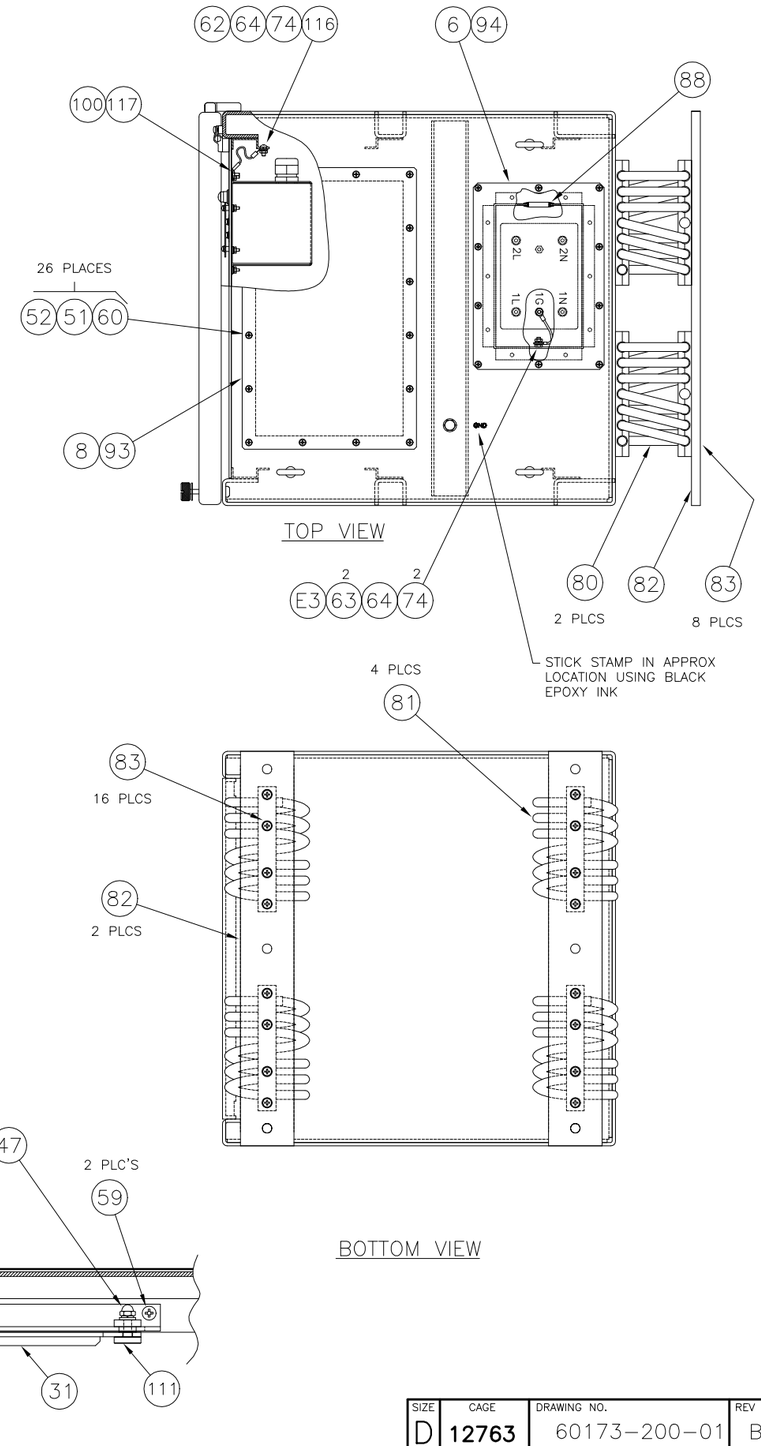
TITLE: RACK ASSEMBLY

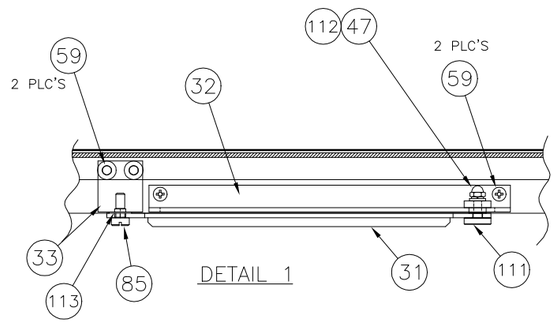
SIZE	CAGE	DRAWING NO.	REV
D	12763	60173-200-01	B

SCALE 1/1 WEIGHT SHEET 1 OF 3

Figure 6
38

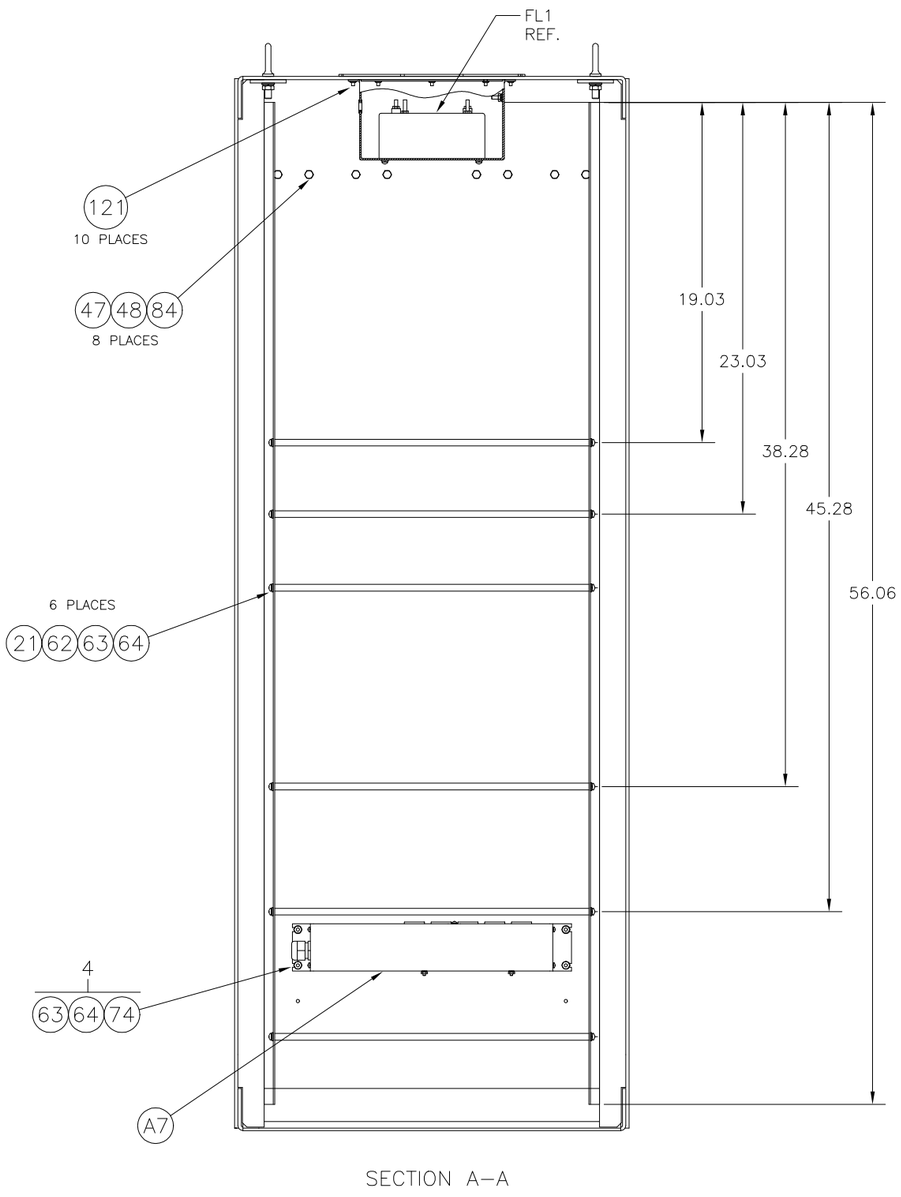




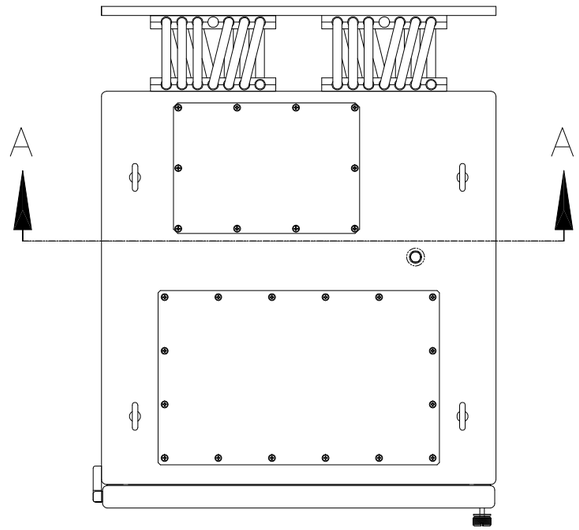


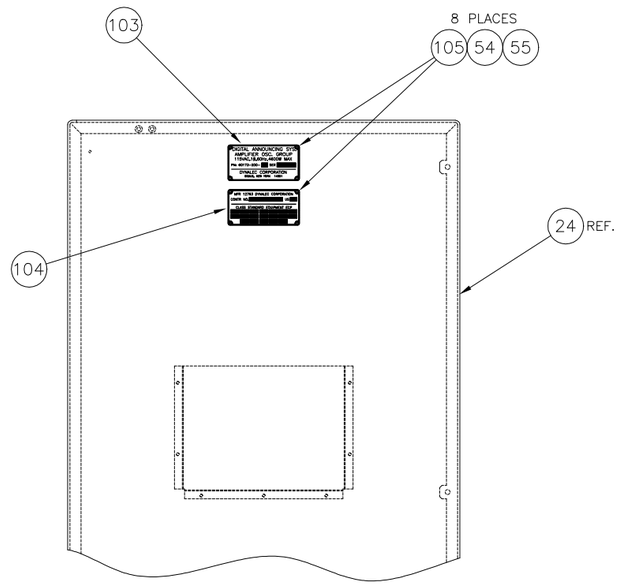
SIZE	CAGE	DRAWING NO.	REV
D	12763	60173-200-01	B
SCALE 1/1	WEIGHT ——	SHEET 2 OF 3	

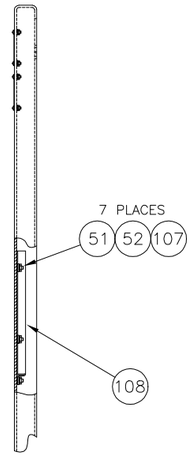
Figure 7
39



SECTION A–A







SIZE	CAGE	DRAWING NO.	REV
D	12763	60173-200-01	B
SCALE 1/1	WEIGHT ——	SHEET 3 OF 3	

Figure 8
40

This section contains the parts list for the 60173-435 Ship's Wiring Module. This module includes the Ship's Wiring Module PCB Assembly (60173-430) and all of its associated components.

Please refer to Figure 9 for locations of each of the components shown on the following parts list.

PARTS LIST

01/31/2002

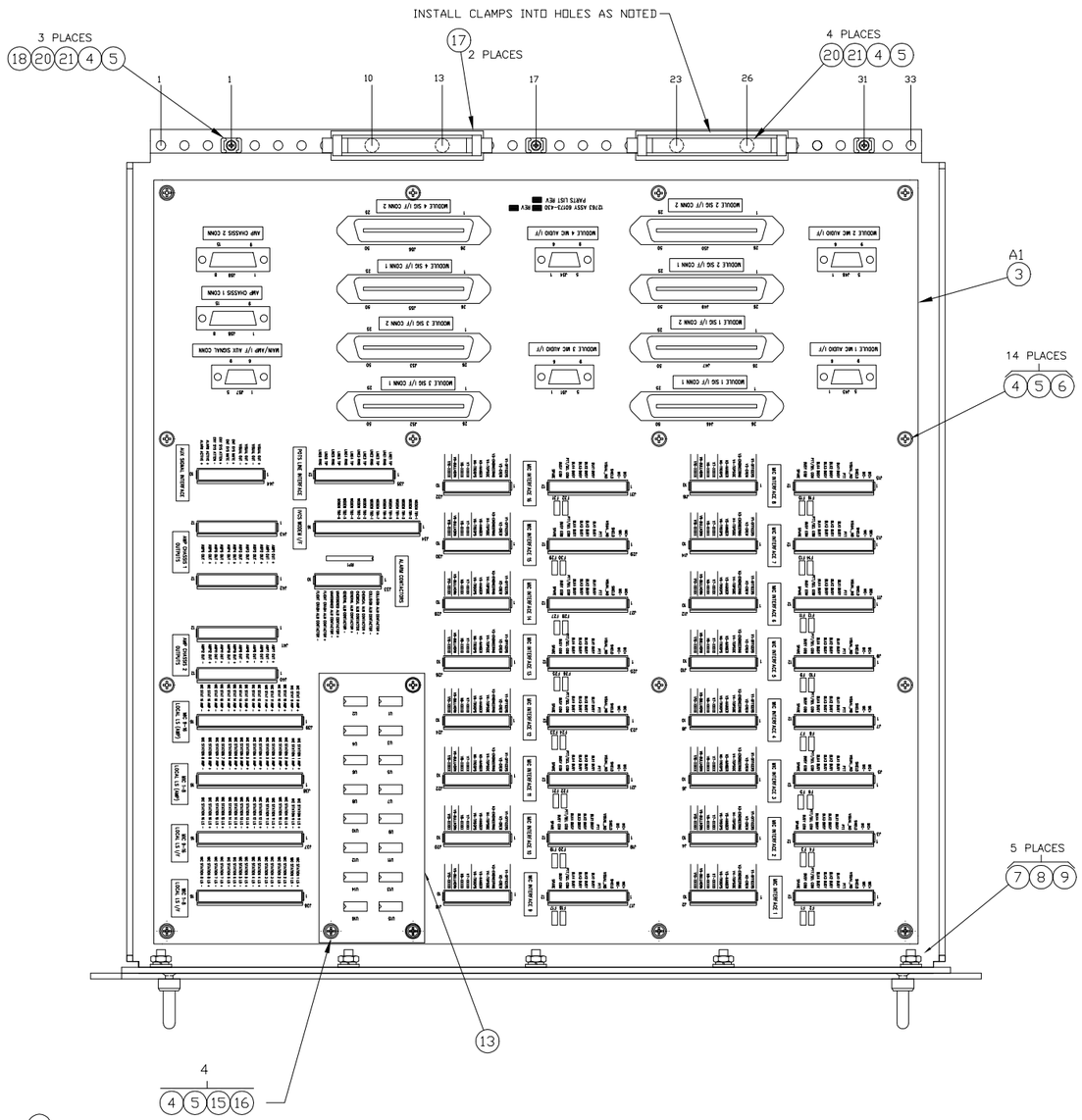
DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

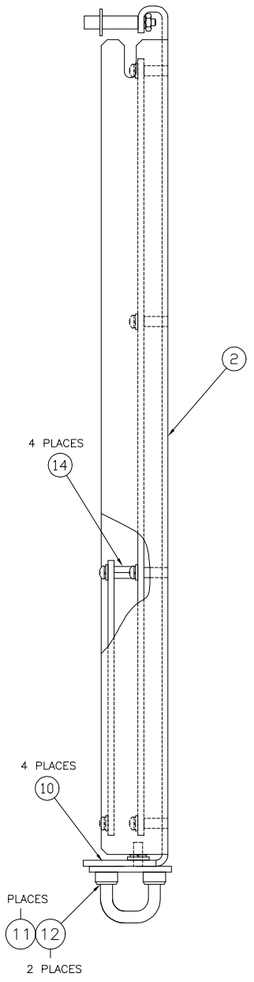
Enditem : 60173-435
SHIPS WIRING TRAY ASSEMBLY
CAGE : 12763

REVLTR : A
REVDATE : 09/13/2001
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-237-01	1		12763			FRONT PANEL, SHIPS WIRING TRAY	X	A		62
	2	60173-436	1		12763			I/F TRAY	X	B		62
	3	60173-430	1	A1	12763			PCB, ASSY SHIPS WIRING PCB	X	B	A1	60
	4	12203-003	18		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	5	12211-005	18		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	6	12119-004	18		96906	MS51957-31	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 5/8				69
	7	12203-005	5		96906	MS35338-138	FF-W-84	WSHR,LOCK #10 .34OD, .05T				69
	8	12211-008	5		96906	MS15795-808	FF-W-92	WSHR,FLAT #10 .438 OD, .05T				69
	9	12301-005	5		96906	MS35650-304	FF-N-836	NUT,PL,HEX 10-32 .125 THK				69
	10	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	11	12502-018	2		06540	10140-A-0632-2		HANDLE,3/16 DIA 1"LG, 1"HIGH	X	-		69
	12	12503-010	4		06540	16017-A-2		FERRULE, 3/16 DIA HANDLE	X	-		69
	13	60173-437	1		12763			SHIELD, LEXAN	X	A		69
	14	12520-436	4		06540	8215-SS-0632-7	QQ-S-764	STDF,HEX 1/4 X 1/2, #6	A	A		69
	15	12119-008	4		96906	MS51957-35	FF-S-92	SCR,MACH-PNH XREC 6-32 X 1-1/4				69
	16	12400-154	4		32559	905-405		SPACER .250OD, .147ID, .405LG				69
	17	13029-215	2			026-0163		BUNDLE CLIP	X			69
	18	14128-047	3		06383	TM2S6-C		TIE MOUNT #6	X			69
	20	12119-003	7		96906	MS51957-30	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 1/2				69
	21	12301-003	7		96906	MS35649-264	FF-N-836	NUT,PL,HEX 6-32 .108 THK				69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	10/9/01	GBC
	B	ECN 4105	1/9/02	GBC
	C	ECN 4126	01/28/02	PDL





SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\435XXB1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES FRACTIONS ± 64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°	DRAWN DAPIER 8/22/01	DYNALEC CORPORATION SODUS, NEW YORK 14551	
MFG SPEC: ———	CHECKED	TITLE: SHIPS WIRING TRAY ASSEMBLY	
MATERIAL: ---	ENGINEER		
	APPROVED		
	CONTRACT NO. / REL DATE		
60173-200	DESIGN ACTIVITY APPROVAL	SIZE E / CAGE 12763 / DRAWING NO. 60173-435 / REV C	
NEXT ASSY / USED ON: APPLICATION	FINISH: ---	APPROVAL	SCALE 1/1 / WEIGHT / SHEET 1 OF 1

12763 DWG NO. 60173-435 REV C SHT 1

Figure 9
43

Ship's Wiring Tray PCB Assembly Parts List

This section contains the parts list for the 60173-430 Ship's Wiring Tray PCB Assembly. This assembly is part of the 60173-435 Ship's Wiring Tray Assembly and includes all of the connectors associated with the Ship's Wiring Interface.

Please refer to Figure 10 for locations of each of the components shown on the following parts list.

PARTS LIST

11/07/2001

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-430
PCB, ASSY SHIPS WIRING PCB
CAGE : 12763

REVLTR : A
REVDATE : 09/05/2001
ORIGDATE : 02/01/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	14050-103	32	F1 THRU F32	75915	60R010		FUSE, RESETTABLE, 100MA	X			69
1	2	14053-012-3	21	SEE NOTE 1	5Y407	18 43 32 1		HEADER, 12-POSITION, 3.5MM	X			69
2	3	14053-010-3	18	SEE NOTE 2	5Y407	18 43 30 5		HEADER, 10-POSITION, 3.5MM	X			69
	4	14053-016-3	5	J34,J36,J37,J38,J39	5Y407	18 43 36 3		HEADER, 16-POSITION, 3.5MM	X			69
	5	13025-082	4	J45,J48,J51,J54	28198	HDC9F3S60T20		CONN, 9-PIN FEM DSUB, PCB	X			69
3	6	13052-090	8	SEE NOTE 3		MR50 S C 3		HEADER, 50-POS CENT RCPT	X			69
	7	13025-060	1	J57	28198	HDC9M3S60T2		CONN 9 PIN PC				69
	8	13025-031	2	J58,J59	28198	HDC15M3S0T2		CONN 15 PIN (MALE)				69
	9	11259-035	1	RP1	58756	770-10-3-331		RES, PACK, FILM 330,ISO,SIP10	X			69
	10	14102-069	16	U1 THRU U16	71707	PS7141-2A		RELAY,SOLID STATE, DUAL FORM A				69
	11	60173-431	1		12763			PCB DETAIL, SHIPS WIRING PCB	X	A		69
4	12	14054-012-3	21	SEE NOTE 4	5Y407	18 47 22 0		PLUG, 12-POS, LOCKING, 3.5MM	X			69
5	13	14054-010-3	18	SEE NOTE 5	5Y407	18 47 20 4		PLUG, 10-POS, LOCKING, 3.5MM	X			69
	14	14054-016-3	5	P43,P36-P39	5Y407	18 47 26 2		PLUG, 16-POS, LOCKING, 3.5MM	X			69
	15	12523-310	16		46384	KFSE-440-8		STANDOFF, PCB, 4-40X .250				69

11/07/2001

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

PARTS LIST

Enditem : 60173-430

PCB, ASSY SHIPS WIRING PCB

CAGE : 12763

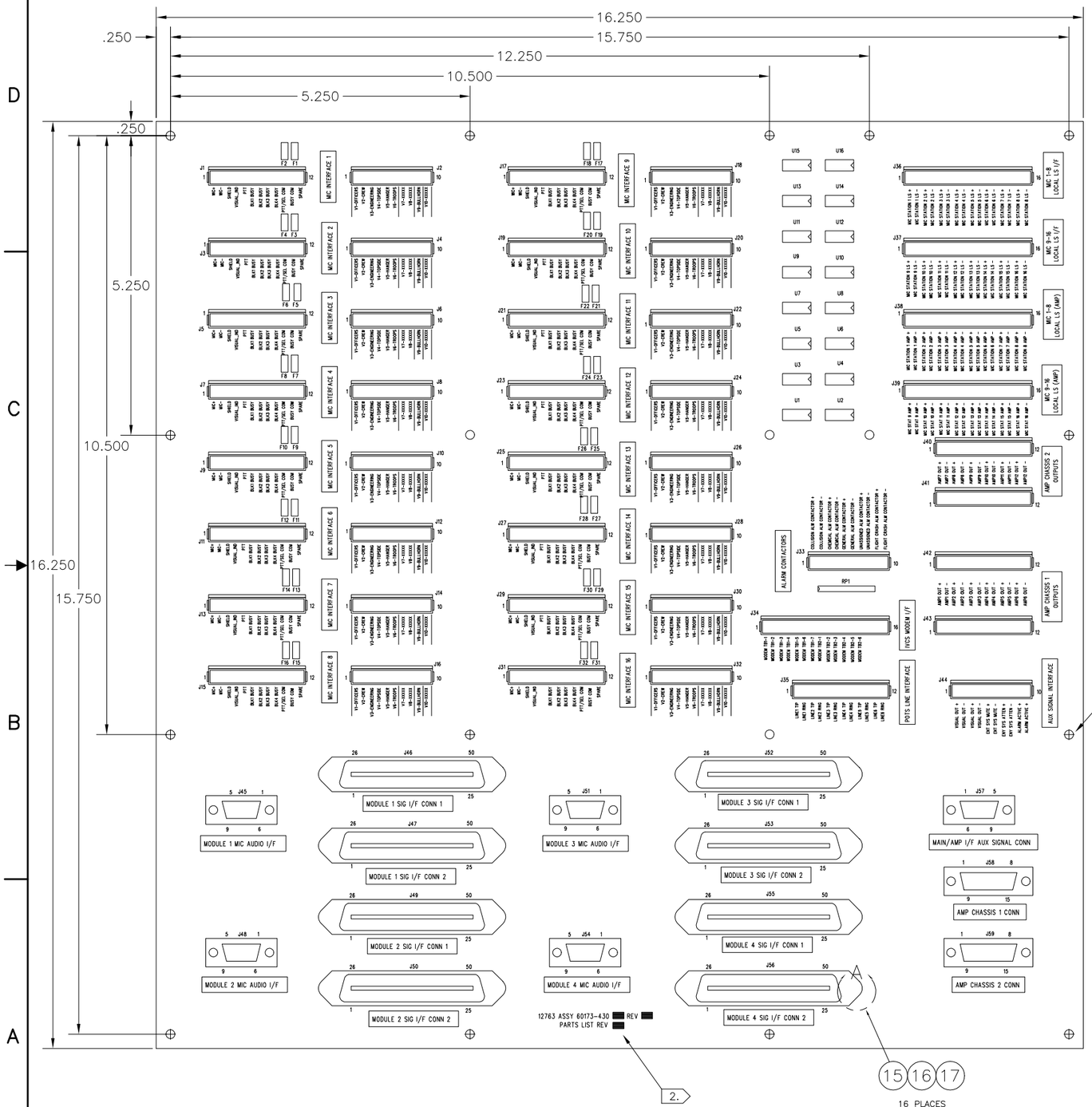
REVLTR : A
REVDATE : 09/05/2001
ORIGDATE : 02/01/2001
MANUF# :

Note #	Note Description
1	J1,J3,J5,J7,J9,J11,J13,J15,J17,J19,J21,J23,J25,J27,J29,J31 J35,J40,J41,J42,J43
2	J2,J4,J6,J8,J10,J12,J14,J16,J18,J20,J22,J24,J26,J28,J30,J32,J33,J44
3	J46,J47,J49,J50,J52,J53,J55,J56
4	P1,P3,P5,P7,P9,P11,P13,P15,P17,P19,P21,P23,P25,P27,P29,P31 P35,P40,P41,P42,P43
5	P2,P4,P6,P8,P10,P12,P14,P16,P18,P20,P22,P24,P26,P28,P30,P33,P44

12763	DWG NO. 60173-430	SH 1	REV B

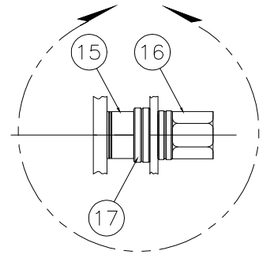
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APVD
	–	RELEASE	3-26-01	T.B.
	A	ECN 4049	9/5/01	GBC
	B	ECN 4126	01/28/02	PDL



NOTES:

1. ASSEMBLE AND PROCESS PER MIL-C-28809, RYPE R02A.
2. STAMP CURRENT REVISION LEVEL OF THE ASSEMBLY AND PARTS LIST IN LOCATION SHOWN USING INDELIBLE INK.



DETAIL A
MOUNTING HARDWARE
SCALE 3:1

DYNALEC PROPRIETARY DATA

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED, RELEASED, MODIFIED OR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF DYNALEC CORPORATION.

SEE SEPARATE PARTS LIST

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60173-200	
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°
MFG SPEC: ———
MATERIAL: – – –
FINISH: – – –

DRAWN	S.WEBSTER	DATE 3-5-01
CHECKED	T.B. 3-26-01	
ENGINEER		
APPROVED	T.B. 3-26-01	
CONTRACT NO.		REL DATE 3-26-01
DESIGN ACTIVITY APPROVAL		
APPROVAL		

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: PCB ASSEMBLY, SHIPS WIRING PCB

SIZE	CAGE	DRAWING NO.	REV
D	12763	60173-430	B
SCALE 1/1		WEIGHT	SHEET 1 OF 1

This section contains the parts list for the 60173-415 Main/Amp Interface Module. This module includes the Main/Amp Interface PCB Assembly (60173-410, assembly A1) and all components of the User Interface.

Please refer to Figure 11 or locations of each of the components shown on the following parts list.

PARTS LIST

11/01/2001

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-415
MAIN AMP I/F ASSEMBLY
CAGE : 12763

REVLTR : A
REVDATE : 09/13/2001
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-416	1		12763			CHASSIS, 2RU UNIT	X	A		62
	2	60173-419	1		12763			REAR PANEL, MAIN AMP I/F	X	A		69
	3	60173-418	1		12763			COVER, 2RU UNIT	X	A		69
	4	60173-417	1		12763			FRONT PANEL, MAIN AMP I/F	X	A		62
	5	12503-009	4		06540	16019-A-2		FERRULE, 1/4 DIA HANDLE	X	-		69
	6	12502-016	2		06540	10205-A-0632-2		HANDLE, 1/4 DIA, 2.25LG,1"HIGH	X	-		69
	7	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	8	12211-005	9		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	9	12203-003	9		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	10	12119-002	9		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	11	12211-007	4		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	12	12203-004	4		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	13	12301-004	4		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	14	60173-410	1	A1	12763			PCB ASSY, MAIN/AMP I/F	X	A	A1	60
	15	60173-400	1	A2	12763			PCB ASSY, USER I/F BOARD	X	A	A1	60
	16	60173-405	1		12763			BEZAL, MAIN AMP I/F	X	A		62
	17	60173-406	1		12763			WINDOW, MAIN AMP I/F	X	A		69
	20	12520-427	4		06540	8213-SS-0440-7		STANDOFF, HEX 1/4 X 3/8, 4-40				69
	25	12140-003	4		96906	MS51958-63	FF-S-92	SCR,MACH-PNH,XREC 10-32 X 1/2				69
	26	12203-005	4		96906	MS35338-138	FF-W-84	WSHR,LOCK #10 .34OD, .05T				69
	27	12211-008	4		96906	MS15795-808	FF-W-92	WSHR,FLAT #10 .438 OD, .05T				69
	28	12108-022	15		96906	MS51957-14	FF-S-92	SCR,MACH-PNH,XREC 4-40 X 5/16				69
	29	12203-002	15		96906	MS35338-135	FF-W-84	WSHR,LOCK #4 .025 THK .209 DIA				69
	30	12211-003	15		96906	MS15795-803	FF-W-92	WSHR,FLAT #4 .250 OD .022 THK				69
	31	12301-002	4		96906	MS35649-244	FF-N-836	NUT,PL,HEX 4-40 .093 THK				69
	32	13025-088	3		20999	3341-1L		JACKSOCKET KIT, 4-40, 0.188"HD	X			69

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

PARTS LIST

Enditem : 60173-415
MAIN AMP I/F ASSEMBLY
CAGE : 12763

REVLTR : A
REVDATE : 09/13/2001
ORIGDATE : 09/13/2001
MANUF# :

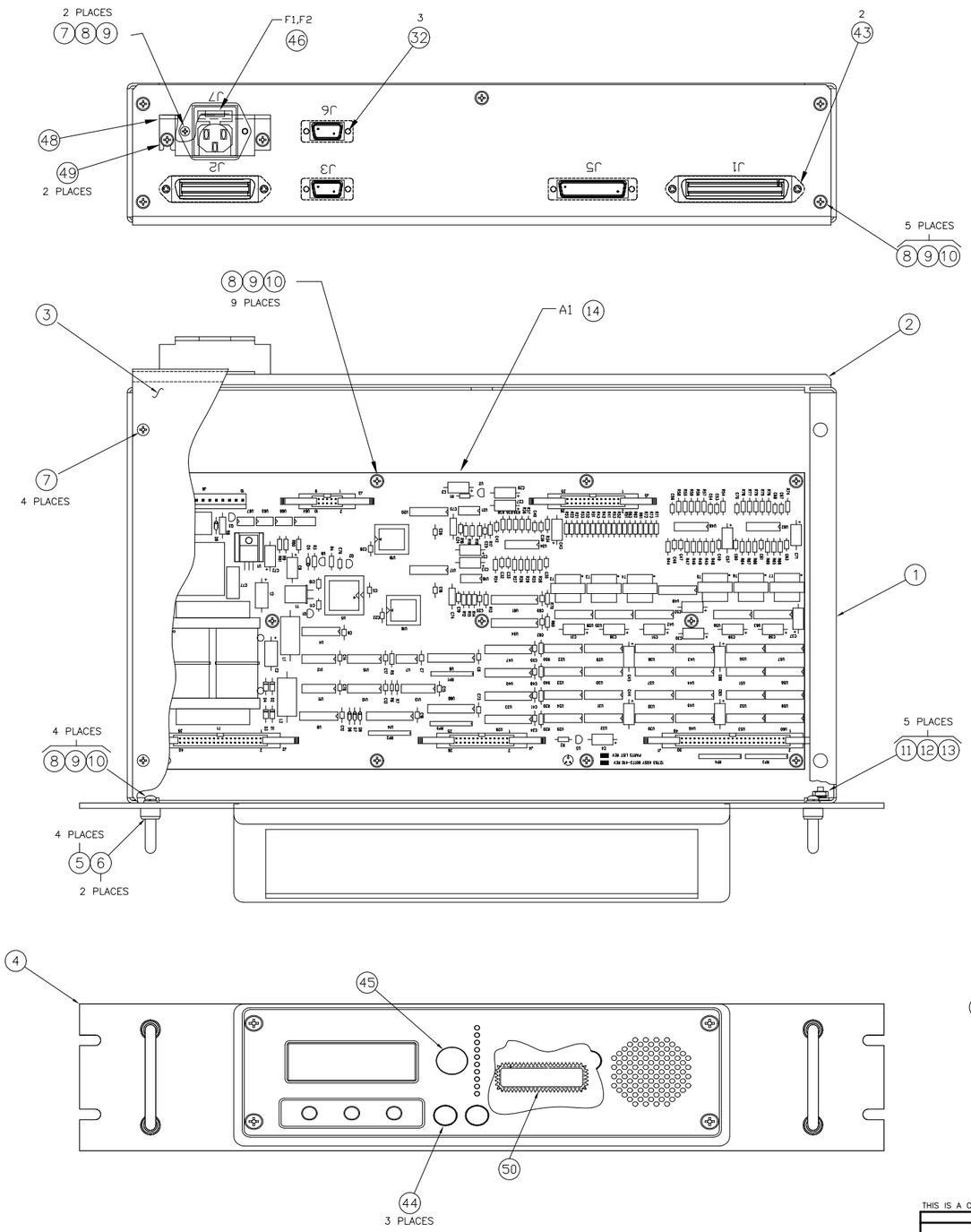
Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	33	14108-047	1	J7		PF0030/63		IEC POWER MODULE, FUSED, 3A	X			69
	34	60173-407	1	DS1		HDM20416L-1ECO		DISPLAY, LCD, 4X20 CHAR	X			69
	35	60173-408	1	LS1	7J508	AC2WI		LOUDSPEAKER, 2" SQUARE	X			69
	36	60173-460	1	W1	12763			CABLE ASSY, ANALOG BUS	X	-		69
	37	60173-461	1	W2	12763			CABLE ASSY, DIG/PWR BUS	X	A		69
	38	60173-465	1	W3	12763			CABLE ASSY, SERIAL COMM I/F	X	A		69
	39	60173-464	1	W4	12763			CABLE ASSY, AMP SIGNAL I/F	X	A		69
	40	60173-466	1	W5	12763			CABLE ASSY, AUX SIGNAL I/F	X	A	C2	60
	41	60173-467	1	W6	12763			CABLE ASSY, INPUT POWER I/F	X	A	C2	60
	42	60173-468	1	W7	12763			CABLE ASSY, LCD/SPKR I/F	X	A	C2	60
	43	13025-085	2		20999	3341-2		JACK SOCKET KIT	X			69
	44	14092-013	3		86797	RKP-3-P-B		KNOB, PURE TOUCH	X	-		69
	45	14092-014	1		86797	RKP-5-B		KNOB, PURE TOUCH NO PNTR, PT5	X	-		69
	46	14050-077	2		75915	217008		FUSE,5MM,8A FAST-ACTING	X			69
	47	60173-424	1		12763	CHO-SEAL		GASKET, I/F MODULE	X	A		69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	9/4/01	GBC
	B	ECN 4091	11/8/01	GBC
	C	ECN 4095	11/13/01	GBC
	D	ECN 4105	1/9/02	GBC
	E	ECN 4126	1/28/02	PDL

CABLE RUN LIST

CABLE	PART NO.	DESCRIPTION	FROM	TO
W1	60173-460	ANALOG BUS I/F	A1J1	J1
W2	60173-461	DIG/PDW BUS I/F	A1J2	J2
W3	60173-465	SERIAL COMM I/F	A1J3	J3
W4	60173-464	AMP SIGNAL I/F	A1J5	J5
W5	60173-466	AUX SIGNAL I/F	A1J6	J6
W6	60173-467	115VAC INPUT	A1J6	J7
W7	60173-468	LCD DISPLAY / SPKR	A2J1	DS1J1/LS1

INTERCONNECT DIAGRAM: 60173-414



SEE SEPARATE PARTS LIST

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ±1/64 DECIMALS XX. ±.02 XXX ±.005 ANGLES ±1°
MFG SPEC: ———
MATERIAL: ---
FINISH: ---
60173-415
NEXT ASSY | USED ON
APPLICATION

DRAWN S.WEBSTER DATE 2-02-01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: MAIN AMP I/F ASSEMBLY

SIZE E | CAGE 12763 | DRAWING NO. 60173-415 | REV E
SCALE 1/1 | WEIGHT | SHEET 1 OF 1

12763 | DWG NO. 60173-415 | SH 1 | REV E

Figure 11
51

This section contains the parts list for the 60173-455 Auxiliary/Amp Interface Module. This module includes the Auxiliary/Amp Interface PCB Assembly (60173-450) and all of its associated components.

Please refer to Figure 12 for locations of each of the components shown on the following parts list.

PARTS LIST

01/29/2002

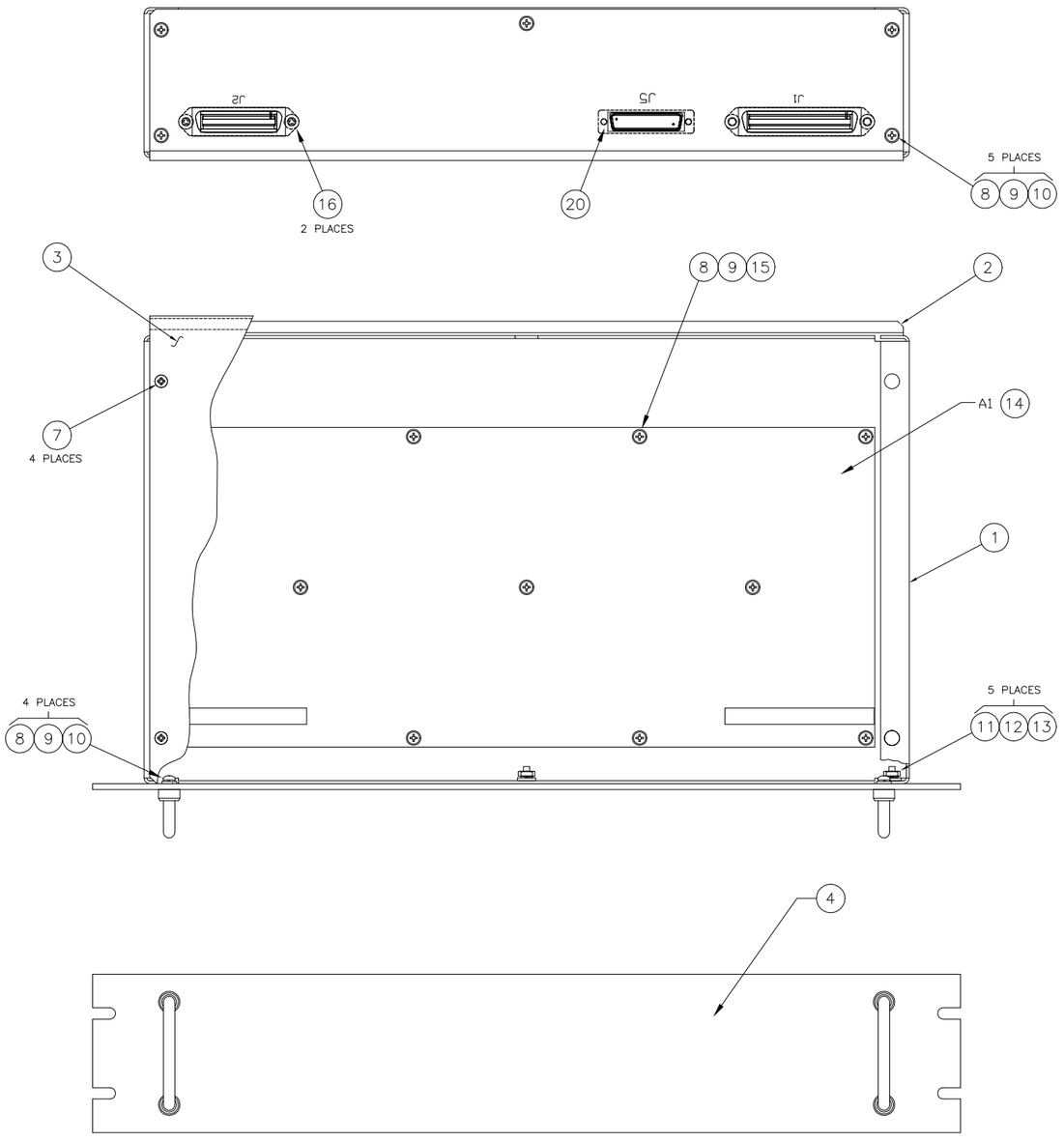
DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-455
AMP I/F #2 ASSEMBLY
CAGE : 12763

REVLTR : A
REVDATE : 11/08/2001
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-416	1		12763			CHASSIS, 2RU UNIT	X	A		62
	2	60173-457	1		12763			REAR PANEL, AMP I/F	X	C		69
	3	60173-418	1		12763			COVER, 2RU UNIT	X	A		69
	4	60173-456-01	1		12763			FRONT PANEL, AMP INTERFACE #2	X	A		62
	5	12503-009	4		06540	16019-A-2		FERRULE, 1/4 DIA HANDLE	X	-		69
	6	12502-016	2		06540	10205-A-0632-2		HANDLE, 1/4 DIA, 2.25LG,1"HIGH	X	-		69
	7	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	8	12211-005	20		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	9	12203-003	20		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	10	12119-002	9		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	11	12211-007	4		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	12	12203-004	4		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	13	12301-004	4		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	14	60173-450	1	A1	12763			PCB ASSY, AMP I/F #2	X	-	A1	60
	15	12119-003	11		96906	MS51957-30	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 1/2				69
	16	13025-085	2		20999	3341-2		JACK SOCKET KIT	X			69
	17	60173-460	1	W1	12763			CABLE ASSY, ANALOG BUS	X	-		69
	18	60173-461	1	W2	12763			CABLE ASSY, DIG/PWR BUS	X	A		69
	19	60173-464	1	W3	12763			CABLE ASSY, AMP SIGNAL I/F	X	A		69
	20	13025-088	1		20999	3341-1L		JACKSOCKET KIT, 4-40, 0.188"HD	X			69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	9/4/01	GBC
	B	ECN 4091	11/6/01	GBC



CBL	PART NO.	DESCRIPTION	FROM	TO
W1	60173-460	CABLE ASSY, ANALOG BUS	A1J1	J1
W2	60173-461	CABLE ASSY, DIG/PWR BUS	A1J2	J2
W3	60173-464	CABLE ASSY, AMP SIG I/F	A1J5	J5

SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\455XXB1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°
MFG SPEC: ———
MATERIAL: ---
FINISH: ---
60173-455
NEXT ASSY | USED ON
APPLICATION

DRAWN S.WEBSTER DATE 2-02-01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. | REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: AUX AMP I/F ASSEMBLY

SIZE E | CAGE 12763 | DRAWING NO. 60173-455 | REV B
SCALE 1/1 | WEIGHT | SHEET 1 OF 1

12763 DWG NO. 60173-200 SH 1 REV B

Figure 12

This section contains the parts list for the 60173-425 Mic Interface Module. This module includes the Mic Interface PCB Assembly (60173-420) and all of its associated components.

Please refer to Figure 13 for locations of each of the components shown on the following parts list.

PARTS LIST

01/29/2002

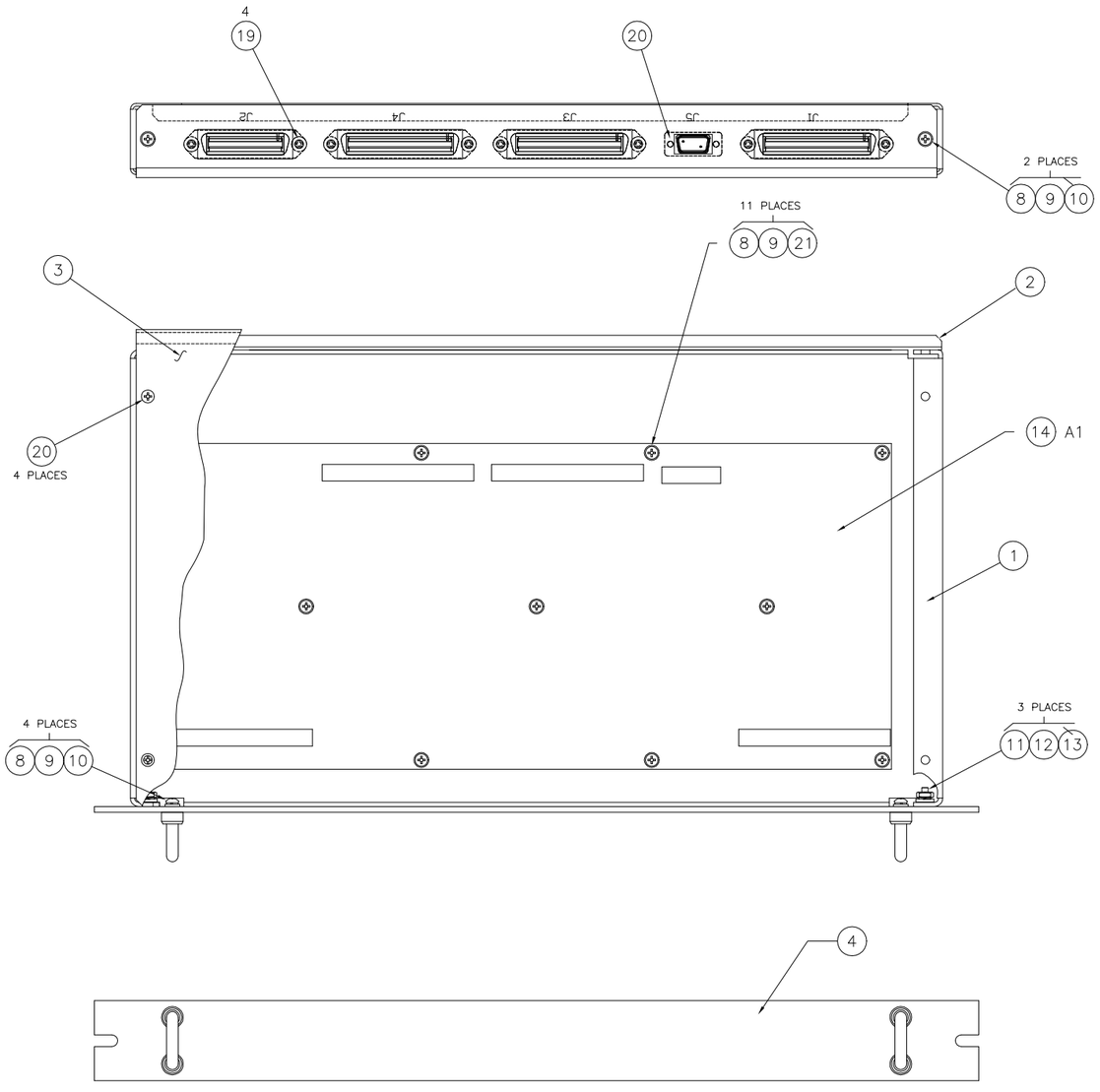
DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-425
MIC I/F ASSEMBLY
CAGE : 12763

REVLTR : B
REVDATE : 01/11/2002
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-426	1		12763			CHASSIS, MIC/PBX	X	A		62
	2	60173-429	1		12763			REAR PANEL, MIC/PBX	X	A		69
	3	60173-418	1		12763			COVER, 2RU UNIT	X	A		69
	4	60173-427-01	1		12763			FRONT PANEL, MIC I/F ASSY	X	A		62
	5	12503-010	4		06540	16017-A-2		FERRULE, 3/16 DIA HANDLE	X	-		69
	6	12502-018	2		06540	10140-A-0632-2		HANDLE,3/16 DIA 1"LG, 1"HIGH	X	-		69
	7	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	8	12211-005	17		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	9	12203-003	17		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	10	12119-002	6		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	11	12211-007	4		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	12	12203-004	4		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	13	12301-004	4		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	14	60173-420	1	A1	12763			PCB ASSY, MIC I/F BOARD	X	A	A1	60
	15	60173-460	1	W1	12763			CABLE ASSY, ANALOG BUS	X	-		69
	16	60173-461	1	W2	12763			CABLE ASSY, DIG/PWR BUS	X	A		69
	17	60173-462	2	W3,W4	12763			CABLE ASSY, SWB INTERFACE	X	A		69
	18	60173-463	1	W5	12763			CABLE ASSY, MIC SIGNAL I/F	X	A		69
	19	13025-085	4		20999	3341-2		JACK SOCKET KIT	X			69
	20	13025-088	1		20999	3341-1L		JACKSOCKET KIT, 4-40, 0.188"HD	X			69
	21	12119-003	11		96906	MS51957-30	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 1/2				69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE		



CABLE	P/N	DESCRIPTION	FROM	TO
W1	60173-460	CABLE ASSY, ANALOG BUS	A1J1	J1
W2	60173-461	CABLE ASSY, DIG/PWR BUS	A1J2	J2
W3	60173-462	CABLE ASSY, SWB INTERFACE	A1J3	J3
W4	60173-462	CABLE ASSY, SWB INTERFACE	A1J4	J4
W5	60173-463	CABLE ASSY, MIC SIG I/F	A1J5	J5

SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\425XXA1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°
MFG SPEC: ———
MATERIAL: ---
FINISH: ---
60173-200
NEXT ASSY | USED ON
APPLICATION

DRAWN DAPIER DATE 8/22/01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. | REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: MIC/IF ASSEMBLY

SIZE	CAGE	DRAWING NO.	REV
E	12763	60173-425	A

SCALE 1/1 WEIGHT SHEET 1 OF 1

12763 DWG NO. 60173-425 SH 1 REV A

Figure 13

This section contains the parts list for the 60173-445 Mic Interface Module. This module includes the PBX/IVCS Modem PCB Assembly (60173-440) and all of its associated components.

Please refer to Figure 14 for locations of each of the components shown on the following parts list.

PARTS LIST

01/29/2002

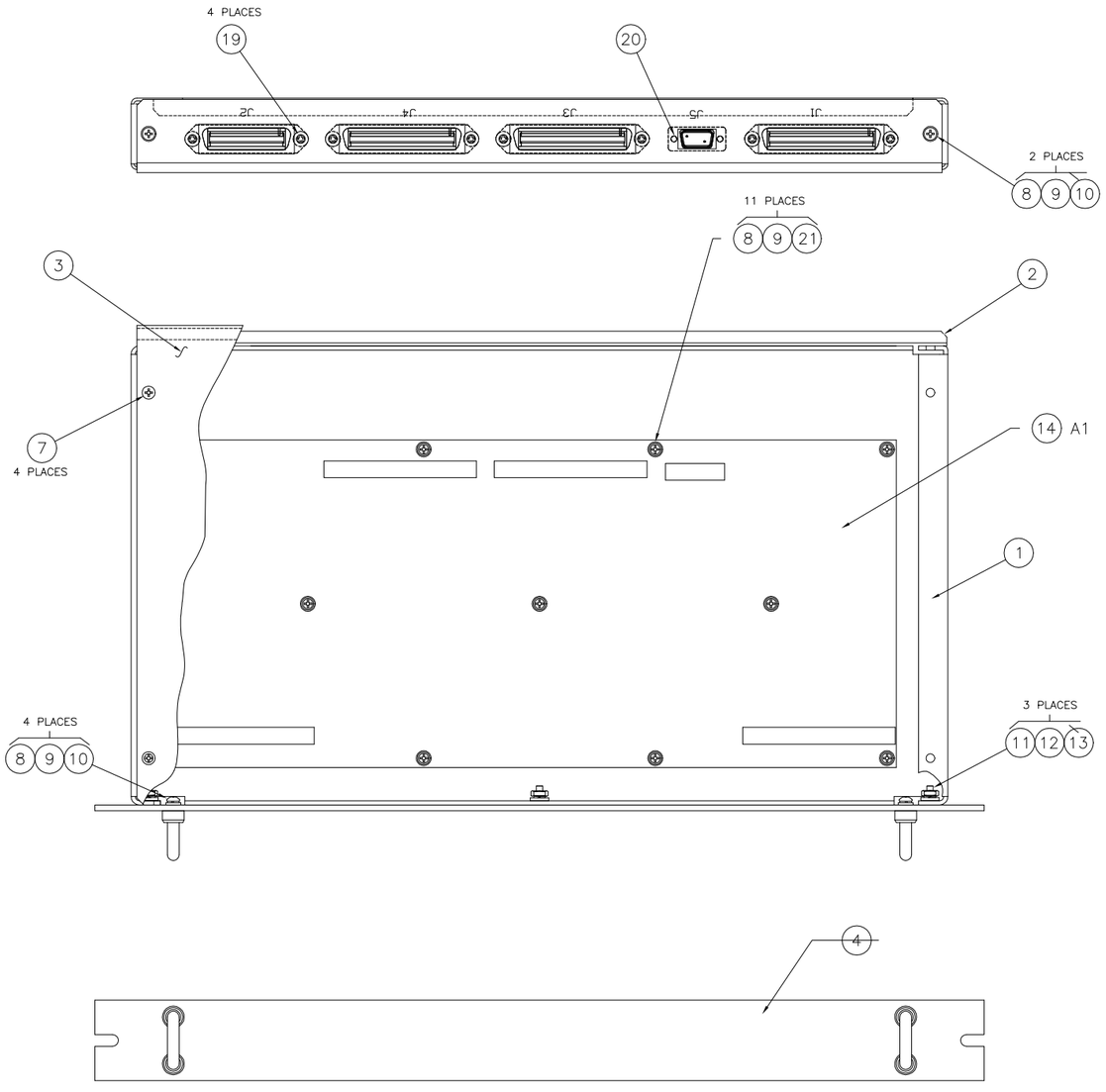
DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-445
PBX/ENT/IVCS I/F ASSEMBLY
CAGE : 12763

REVLTR : A
REVDATE : 09/13/2001
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-426	1		12763			CHASSIS, MIC/PBX	X	A		62
	2	60173-429	1		12763			REAR PANEL, MIC/PBX	X	A		69
	3	60173-418	1		12763			COVER, 2RU UNIT	X	A		69
	4	60173-427-02	1		12763			FRONT PANEL, PBX/IVCS I/F	X	A		62
	5	12503-010	4		06540	16017-A-2		FERRULE, 3/16 DIA HANDLE	X	-		69
	6	12502-018	2		06540	10140-A-0632-2		HANDLE,3/16 DIA 1"LG, 1"HIGH	X	-		69
	7	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	8	12211-005	17		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	9	12203-003	17		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	10	12119-002	6		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	11	12211-007	4		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	12	12203-004	4		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	13	12301-004	4		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	14	60173-440	1	A1	12763			PCB ASSY, PBX/ENT/IVCS	X	A	A1	60
	15	60173-460	1	W1	12763			CABLE ASSY, ANALOG BUS	X	-		69
	16	60173-461	1	W2	12763			CABLE ASSY, DIG/PWR BUS	X	A		69
	17	60173-462	2	W3,W4	12763			CABLE ASSY, SWB INTERFACE	X	A		69
	18	60173-463	1	W5	12763			CABLE ASSY, MIC SIGNAL I/F	X	A		69
	19	13025-085	4		20999	3341-2		JACK SOCKET KIT	X			69
	20	13025-088	1		20999	3341-1L		JACKSOCKET KIT, 4-40, 0.188"HD	X			69
	21	12119-003	11		96906	MS51957-30	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 1/2				69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE		



CABLE	P/N	DESCRIPTION	FROM	TO
W1	60173-460	CABLE ASSY, ANALOG BUS	A1J1	J1
W2	60173-461	CABLE ASSY, DIG/PWR BUS	A1J2	J2
W3	60173-462	CABLE ASSY, SWB INTERFACE	A1J3	J3
W4	60173-462	CABLE ASSY, SWB INTERFACE	A1J4	J4
W5	60173-463	CABLE ASSY, MIC SIG I/F	A1J5	J5

SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\445XXA1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°
MFG SPEC: ———
MATERIAL: ---
FINISH: ---
60173-200
NEXT ASSY | USED ON
APPLICATION

DRAWN DAPIER 8/22/01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. | REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE
PBX/ENT/LVCS MODEM ASSEMBLY

SIZE	CAGE	DRAWING NO.	REV
E	12763	60173-445	A

SCALE 1/1 WEIGHT SHEET 1 OF 1

12763 DWG NO. 60173-445 SH 1 REV A

Figure 14
60

This section contains the parts list for the 60173-300 Amplifier Chassis Assembly Module. This module includes the Amplifier Chassis Backplane PCB Assembly (60173-330) and all of its associated components.

Please refer to Figure 15 for locations of each of the components shown on the following parts list.

PARTS LIST

01/29/2002

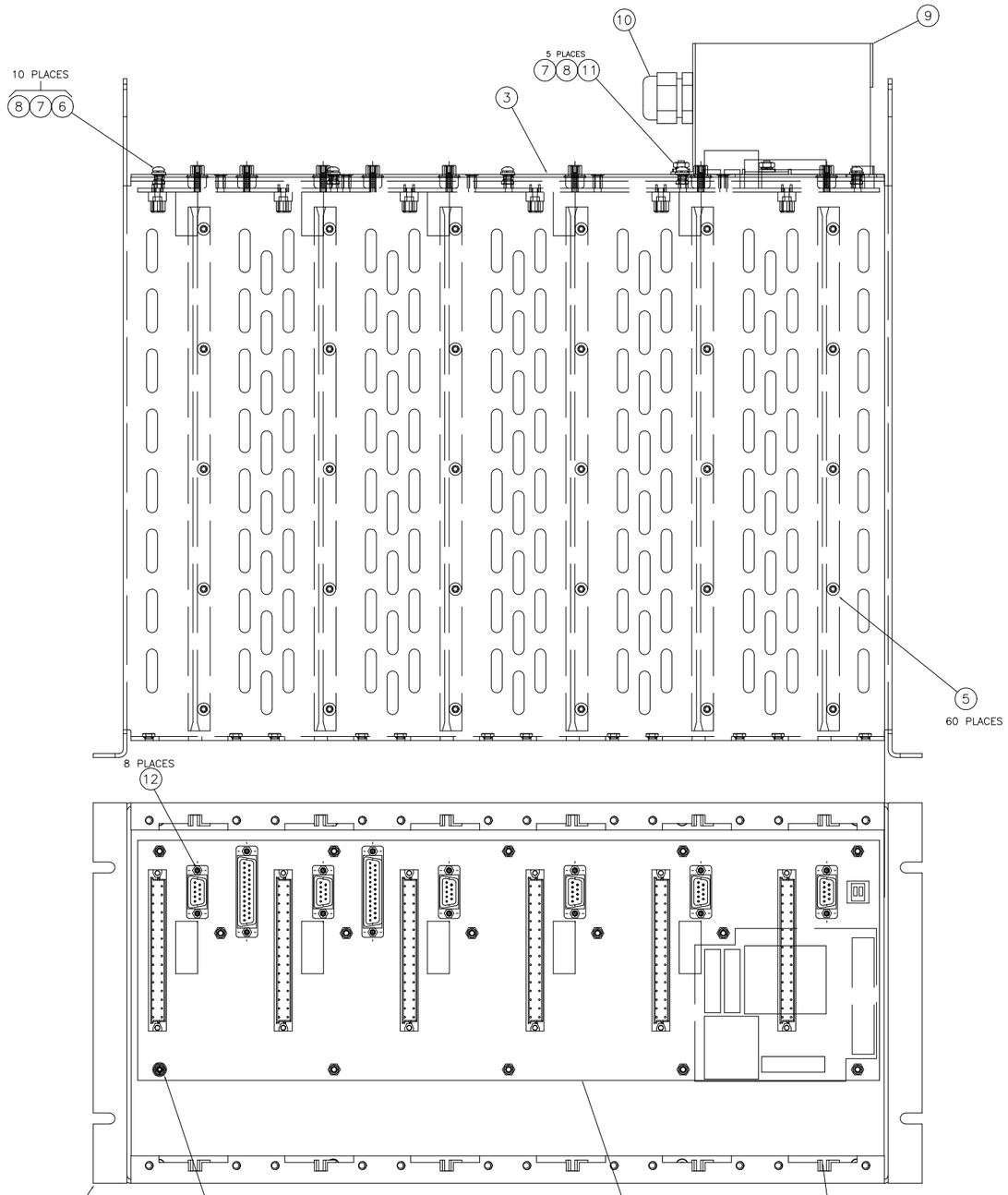
DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

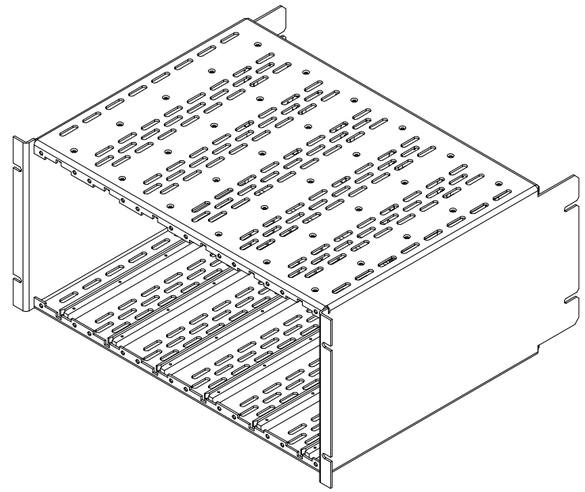
Enditem : 60173-300
CHASSIS ASSEMBLY, AMPLIFIER
CAGE : 12763

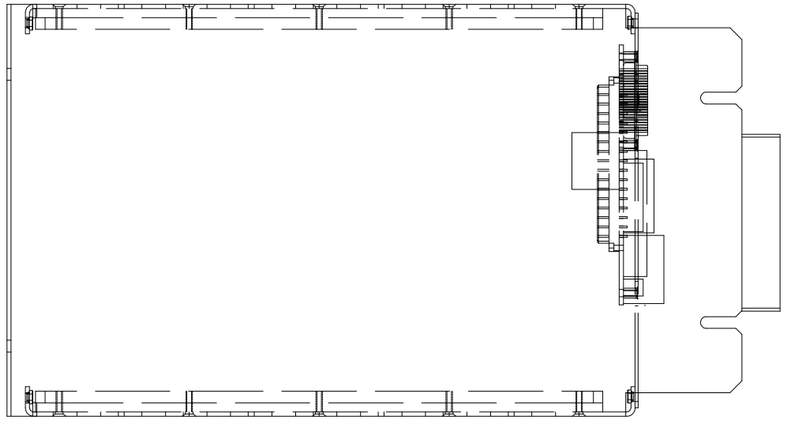
REVLTR : A
REVDATE : 09/13/2001
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-305	1		12763			CHASSIS, AMPLIFIER	X	C		62
	2	60173-330	1	A1	12763			PCB ASSY AMPLIFIER BACKPLANE	X	B	A1	60
	3	60173-307	1		12763			PLATE-MOUNTING, AMP CHASSIS	X	A		62
	4	60173-310	12		12763			GUIDE, AMPLIFIER CHASSIS	X	B		62
	5	12657-002	60		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	6	12119-002	25		96906	MS51957-28	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 3/8				69
	7	12203-003	30		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	8	12211-005	30		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	9	60173-308	1		12763		QQ-A-250/8	COVER, TERMINAL BLOCK	X	B		69
	10	62145-071	1		28520	3210		BUSHING STRAIN RELIEF	B	A		69
	11	12301-003	5		96906	MS35649-264	FF-N-836	NUT,PL,HEX 6-32 .108 THK				69
	12	13025-088	8		20999	3341-1L		JACKSOCKET KIT, 4-40, 0.188"HD	X			69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	8/31/01	GBC
	B	ECN 4126	1/28/02	PDL







SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\300XXA1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°	
MFG SPEC:	
MATERIAL:	---
FINISH:	---
60173-200	
NEXT ASSY / USED ON	APPLICATION
DRAWN 60173-300	DATE 2-26-01
CHECKED	
ENGINEER	
APPROVED	
CONTRACT NO.	REL DATE
DESIGN ACTIVITY APPROVAL	
APPROVAL	

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: CHASSIS ASSEMBLY, AMPLIFIER

SIZE	CAGE	DRAWING NO.	REV
E	12763	60173-300	B

SCALE 1/1 | WEIGHT | SHEET 1 OF 1

12763 DWG NO. 60173-300 REV B SH 1

Figure 15
63

This section contains the parts list for the 60173-350 250W Amplifier Module. This module includes the 250W Amplifier PCB Assembly (60173-320) and all of its associated components.

Please refer to Figure 16 for locations of each of the components shown on the following parts list.

PARTS LIST

02/04/2002

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-350
AMPLIFIER MODULE, 250 W
CAGE : 12763

REVLTR : B
REVDATE : 01/11/2002
ORIGDATE : 09/13/2001
MANUF# :

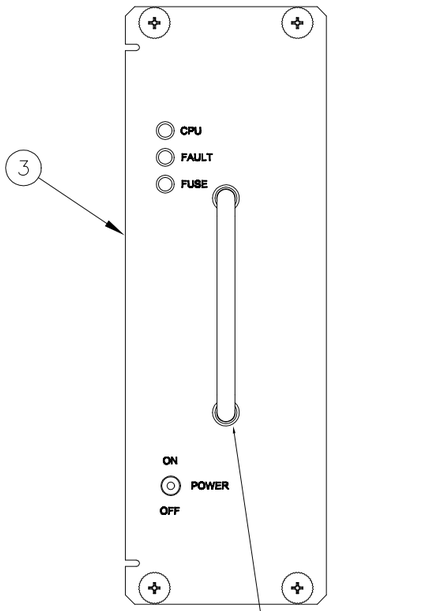
Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	12211-005	14		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	2	12502-010	1		06540	10208-SS-0632-7		HANDLE, 1IN HI, 3IN LG, 1/4DIA				69
	3	60173-352	1		12763			MOUNTING PLATE, AMP MODULE	X	C		62
	4	12211-003	23		96906	MS15795-803	FF-W-92	WSHR,FLAT #4 .250 OD .022 THK				69
	5	12325-033	2		13103	7721-8PPS		SHOULDER WASHER, TO-220 INSUL	A			69
	6	60173-354	1		12763			BRACE, AMPLIFIER MODULE	X	A		62
	7	12108-023	1		96906	MS51957-16	FF-S-92	SCR,MACH-PNH,XREC 4-40 X 7/16				69
	8	12503-007	2		06540	16018-SS-7		FERRULE, 1/4 DIA				69
	9	60173-320	1	A1	12763			PCB ASSY 250W AMPLIFIER	X	B	A1	60
	10	60173-353	1		12763			COVER, AMPLIFIER MODULE	X	A		62
	11	12203-002	23		96906	MS35338-135	FF-W-84	WSHR,LOCK #4 .025 THK .209 DIA				69
	12	12203-003	14		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	13	12119-023	14		96906	MS51957-29	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 7/16				69
	14	12108-022	14		96906	MS51957-14	FF-S-92	SCR,MACH-PNH,XREC 4-40 X 5/16				69
	15	12108-002	12		96906	MS51957-15	FF-S-92	SCR,MACH-PNH,XREC 4-40 X 3/8				69
	16	14210-005	2		05820	173-9-220-P		INSULATOR TO-220				69
	17	14100-038	1			K10-104		INSULATOR PAD,TO-247	X			69
	18	17015-000-06		7"	12763			GASKET, .125 X 1/2 X 50'	X	B		69
	19	17015-000-10		2"	12763			GASKET, .125 X 1-5/8 X 50'	X	B		69
	20	14128-009	2		96906	MS3367-4-9	MIL-S-23190	STRAP, TIEDOWN NAT. WHITE				69

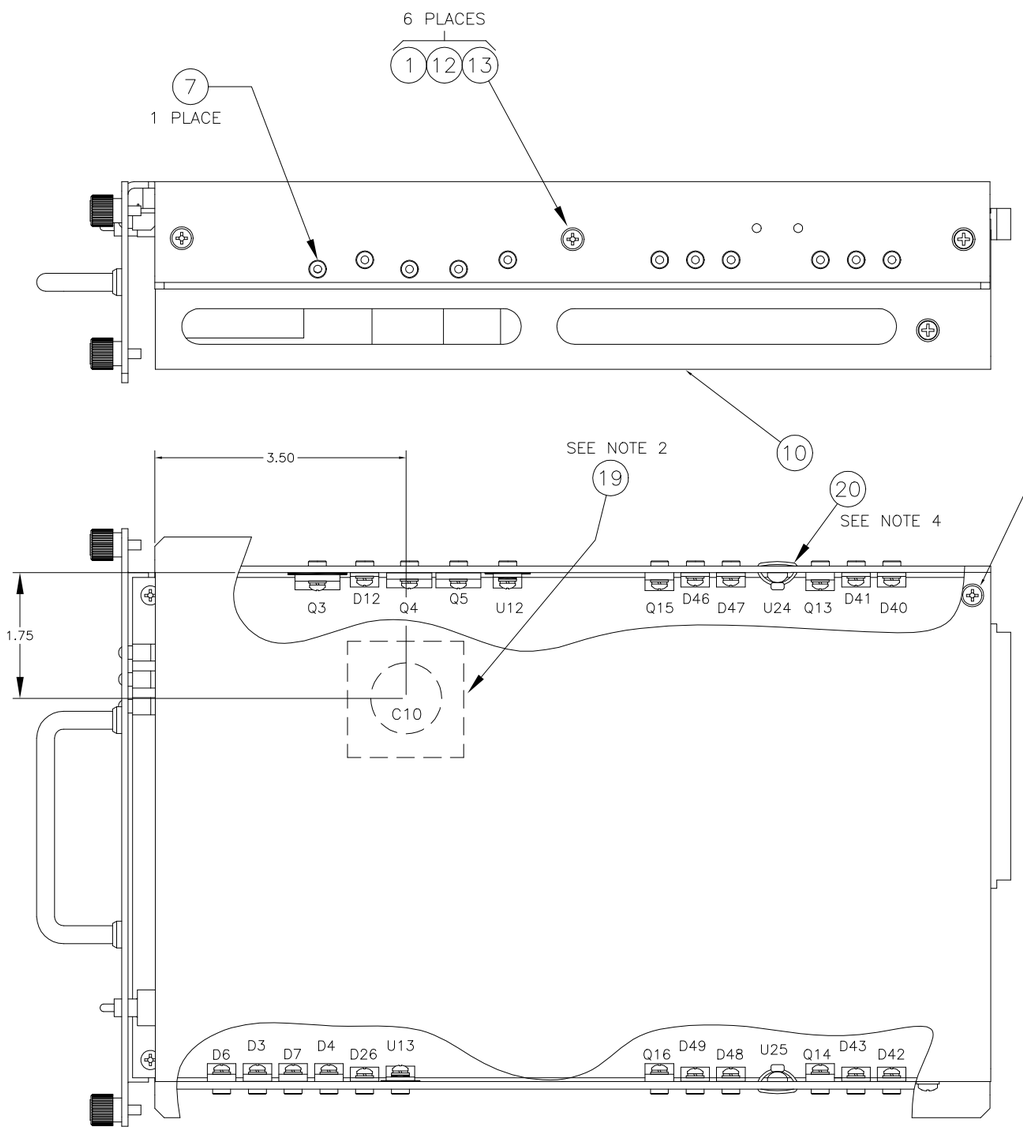
	ITEM NUMBERS		
REF. DESIG.	MTG HARDWARE	INSULATOR	SHOULDER WSH.
U12	15, 4, 11	16	5
U13			
Q3	7, 4, 11	17	
D12	14, 4, 11		
D46			
D47			
D41			
D40			
D42			
D43			
D48			
D49			
D26			
Q4	15, 4, 11		
Q5			
Q15			
Q13			
Q14			
Q16			
D4			
D7			
D3			
D6			

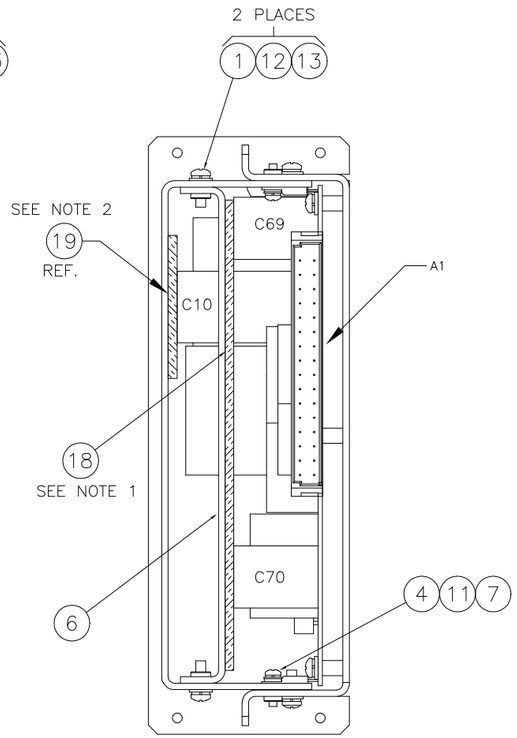
12763	DWG NO. 60173-350	SH 1	REV A

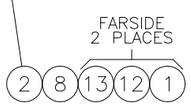
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	8/31/01	GBC









NOTES:

1. APPLY GASKET (ITEM 18) TO BRACE (ITEM 6) AS SHOWN. ASSEMBLE BRACE TO COVER (ITEM 10) . DO NOT TIGHTEN HARDWARE AT THIS TIME. (SEE NOTE 3)
2. POSITION GASKET (ITEM 19) ON INSIDE OF COVER (ITEM 10) APPROX. AS SHOWN GASKET SHOULD BE LOCATED DIRECTLY OVER C10 WHEN COVER IS ASSEMBLED TO MOUNTING PLATE. LIGHT PRESSURE SHOULD BE APPLIED TO THE CAPACITOR THROUGH THE GASKET WHEN ASSEMBLING THE COVER TO THE MOUNTING PLATE.
3. ADJUST BRACE SO THAT THE GASKET CONTACTS CAPACITORS C69 AND C70 AND TIGHTEN IN PLACE. CARE SHOULD BE TAKEN WHEN ADJUSTING THE BRACE THAT TO MUCH PRESSURE IS NOT APPLIED TO THE CAPACITORS AS TO BEND THE CIRCUIT BOARD.
4. INSTALL TY-RAP AS SHOWN. DO NOT OVER TIGHTEN. TIGHTEN ONLY SUFFICIENTLY ENOUGH TO HOLD TEMPERATURE SENSORS U24 AND U25 FIRMLY AGAINST CASE.

SEE SEPARATE PARTS LIST

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\350XXA1A.DWG

60173-200	
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ±1/64 DECIMALS XX ±.02 XXX ±.005 ANGLES ±1°
MFG SPEC: ———
MATERIAL: ———
FINISH: ———

DRAWN S.WEBSTER DATE 2-26-01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE
AMPLIFIER MODULE, 250 W

SIZE	CAGE	DRAWING NO.	REV
D	12763	60173-350	A
SCALE 1/1		WEIGHT	SHEET 1 OF 1

Figure 16
66

This section contains the parts list for the 60173-236 Fan Tray Assembly Module. This module includes all of the components associated with the Fan Tray Assembly.

Please refer to Figure 17 for locations of each of the components shown on the following parts list.

PARTS LIST

01/29/2002

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

Enditem : 60173-236
FAN TRAY ASSEMBLY
CAGE : 12763

REVLTR : C
REVDATE : 01/28/2002
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	1	60173-238	1		12763			FAN TRAY	X	B		62
	2	60173-237-02	1		12763			FRONT PANEL, FAN TRAY	X	A		62
	3	60173-253	6			4710PS-12T-B30-	A00	FAN,AC,4.69SQ,X1.0 THK				69
	4	12657-004	24		96906	MS24693-C29	FF-S-92	SCR,MACH,FLH 6-32 X 5/8				69
	5	12203-003	48		96906	MS35338-136	FF-W-84	WSHR,LOCK #6 .031 THK .250 DIA				69
	6	12211-005	48		96906	MS15795-805	FF-W-92	WSHR,FLAT #6 .312 OD				69
	7	12301-003	48		96906	MS35649-264	FF-N-836	NUT,PL,HEX 6-32 .108 THK				69
	8	12203-004	6		96906	MS35338-137	FF-W-84	WSHR,LOCK #8 .040 THK				69
	9	12211-007	7		96906	MS15795-807	FF-W-92	WSHR,FLAT #8 .375 OD .049 THK				69
	10	12301-004	7		96906	MS35649-284	FF-N-836	NUT,PL,HEX 8-32 .125 THK				69
	11	12657-002	4		96906	MS24693-C26	FF-S-92	SCR,MACH-FLH 100.138-32 X .38				69
	12	12502-018	2		06540	10140-A-0632-2		HANDLE,3/16 DIA 1"LG, 1"HIGH	X	-		69
	13	12503-010	4		06540	16017-A-2		FERRULE, 3/16 DIA HANDLE	X	-		69
	14	60173-255	12			08129		GUARD, FAN	X			69
	15	60173-256	1			C45-6DC		CABLE,FAN,DAISEY CHAIN, 6 FANS				69
	16	12119-003	24		96906	MS51957-30	FF-S-92	SCR,MACH-PNH,XREC 6-32 X 1/2				69
	17	14108-046	1		05245	3EGG8-2		FILTER MODULE, FUSED, 3A	X			69
	18	12506-009	1		96906	MS25036-149	MIL-T-7928	TERM,CRIMP RED #8 22-18GA 1/4				69
	19	12631-023	2		96906	MS51959-16	FF-S-92	SCR,MACH-FLH XREC 4-40 X 7/16				69
	20	12203-002	2		96906	MS35338-135	FF-W-84	WSHR,LOCK #4 .025 THK .209 DIA				69
	21	12211-003	2		96906	MS15795-803	FF-W-92	WSHR,FLAT #4 .250 OD .022 THK				69
	22	12301-002	2		96906	MS35649-244	FF-N-836	NUT,PL,HEX 4-40 .093 THK				69
	23	12506-107	2		27264	19154-0004		SPLICE,BUTT,INS. 18-22GA	X			69
	24	14128-051	4		06383	ABM2S-A		ADHESIVE BACK CABLE MOUNT 1				69
	25	14128-009	6		96906	MS3367-4-9	MIL-S-23190	STRAP, TIEDOWN NAT. WHITE				69
	26	60173-267	1		12763		QQ-A-250/8	RETAINER, POWER CORD	X	A		69

DYNALEC CORPORATION
87,WEST MAIN STREET
SODUS,NEW YORK 14551

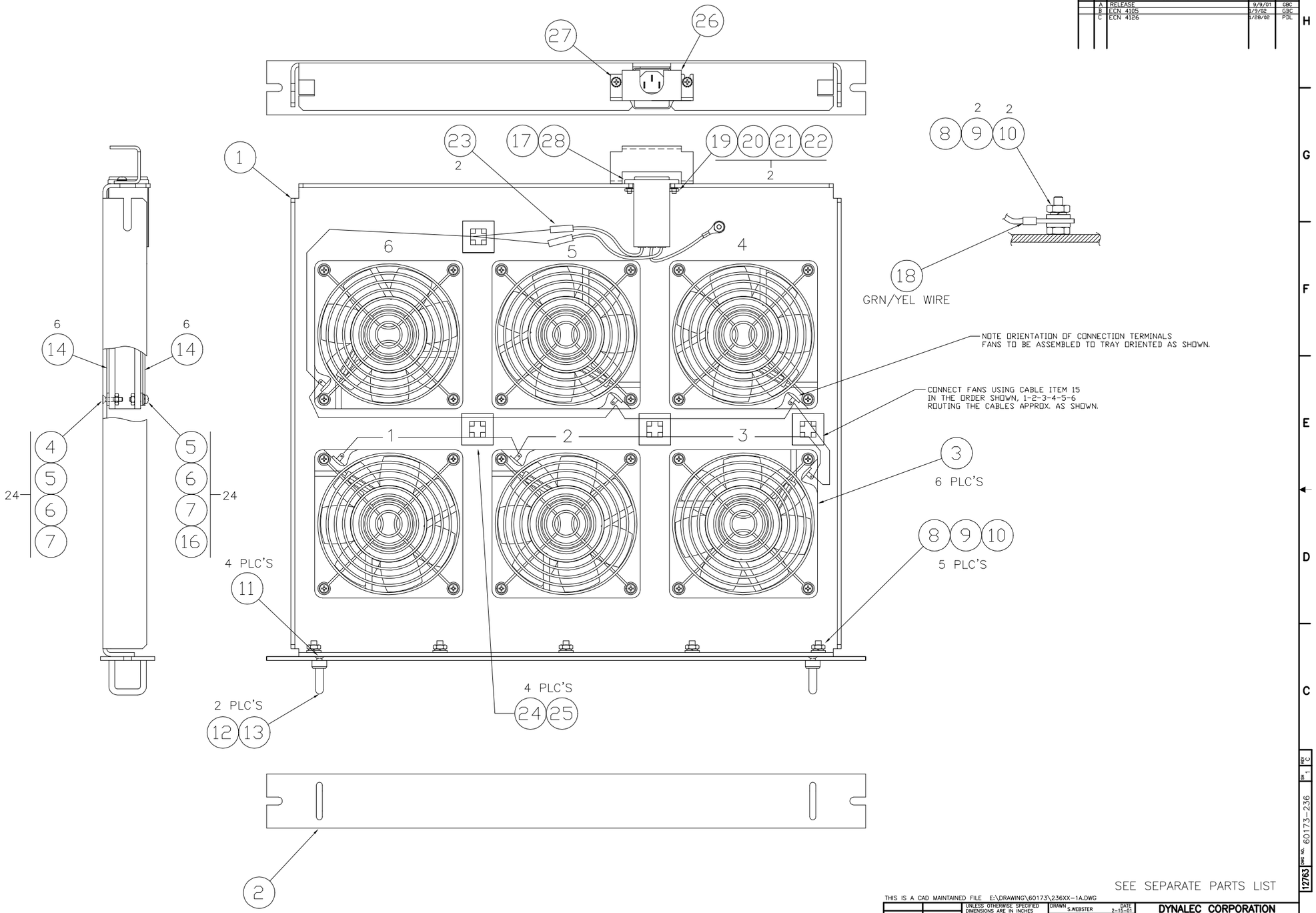
PARTS LIST

Enditem : 60173-236
FAN TRAY ASSEMBLY
CAGE : 12763

REVLTR : C
REVDATE : 01/28/2002
ORIGDATE : 09/13/2001
MANUF# :

Notes	Find No	Dynalec Part No	Qty	Reference Designator	Cage	Part Or Identifying No	Specification	Nomenclature Or Description	Dw Sz	Dwg Rev	Bd Cd	Pt Cd
	27	12119-302	2					SCR,PH,SEMS,EXT CR 6-32 X 3/8				69
	28	14050-078	2	F1,F2	75915	239001		FUSE, 5X20MM, 1A SLO-BLO				69

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	9/9/01	GBC
	B	ECN 4105	1/9/02	GBC
	C	ECN 4126	1/28/02	PDL



SEE SEPARATE PARTS LIST

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN S.WEBSTER 2-15-01
TOLERANCES FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°	CHECKED
	ENGINEER
	APPROVED
MFG SPEC:	CONTRACT NO. REL DATE
MATERIAL: ---	DESIGN ACTIVITY APPROVAL
FINISH: ---	APPROVAL
60173-200 NEXT ASSY USED ON APPLICATION	

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: FAN TRAY ASSEMBLY

SIZE	CAGE	DRAWING NO.	REV
E	12763	60173-236	C

SCALE 1/1 WEIGHT SHEET 1 OF 1

12763 DWG NO. 60173-236 SH 1 REV C

Figure 17
70

System Mounting and Outline Drawing

Refer to Figure 19 on the following page for mounting and outline drawing.

System Input Power

As described in the Salient Characteristics section on page 6, the Integrated Announcing System accepts single-phase, 115VAC, 60Hz (nominal) input power. The current drawn from this power source depends primarily on the number of Amplifier Modules in the system and the input cabling should be sized accordingly.

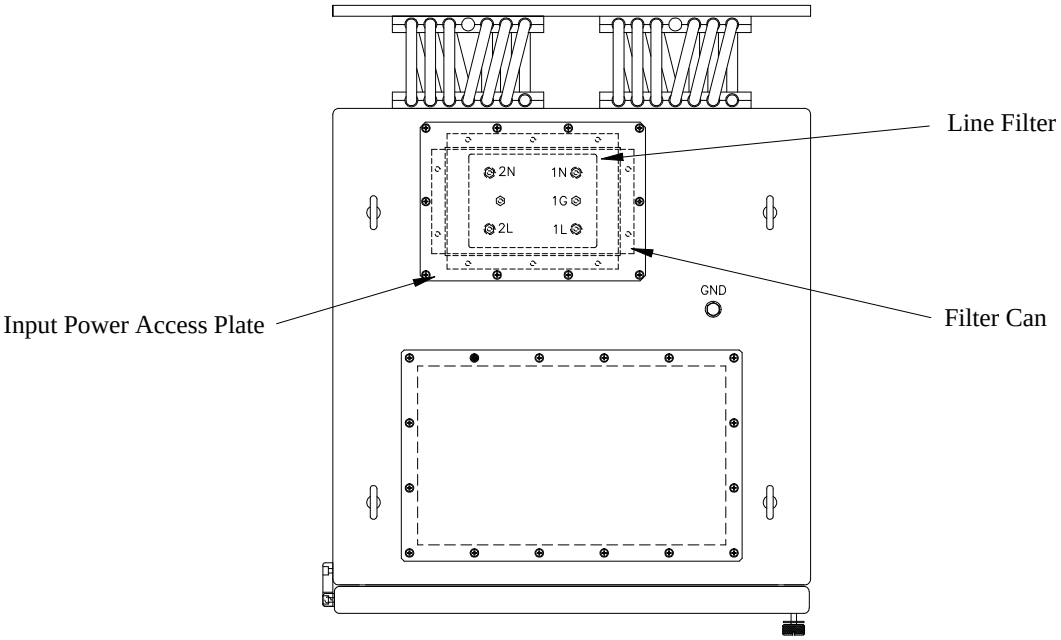


Figure 18 : Input Power Connections

The figure above illustrates how the input power is brought into the system. The line filter is mounted in a filter can so that it remains in place when the input power access plate is removed. The access plate should be removed and a hole should be drilled into it (appropriately sized to fit a stuffing tube which will accommodate the two input power leads) positioned near the 1N and 1L connection studs (#10 studs) of the line filter. The input leads should be fitted with round terminal lugs sized for a #10 stud. The input leads should be brought in through the installed stuffing tube and connected to line filter studs 1N and 1L.

NOTES:

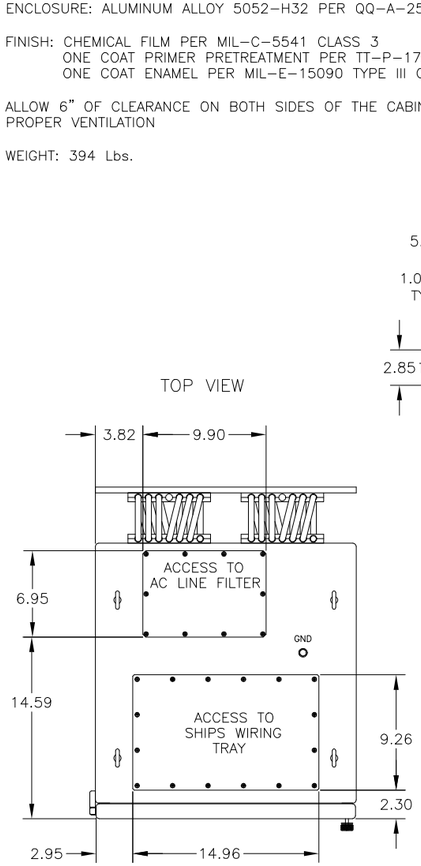
1.) MATERIAL:
ENCLOSURE: ALUMINUM ALLOY 5052–H32 PER QQ–A–250/8.

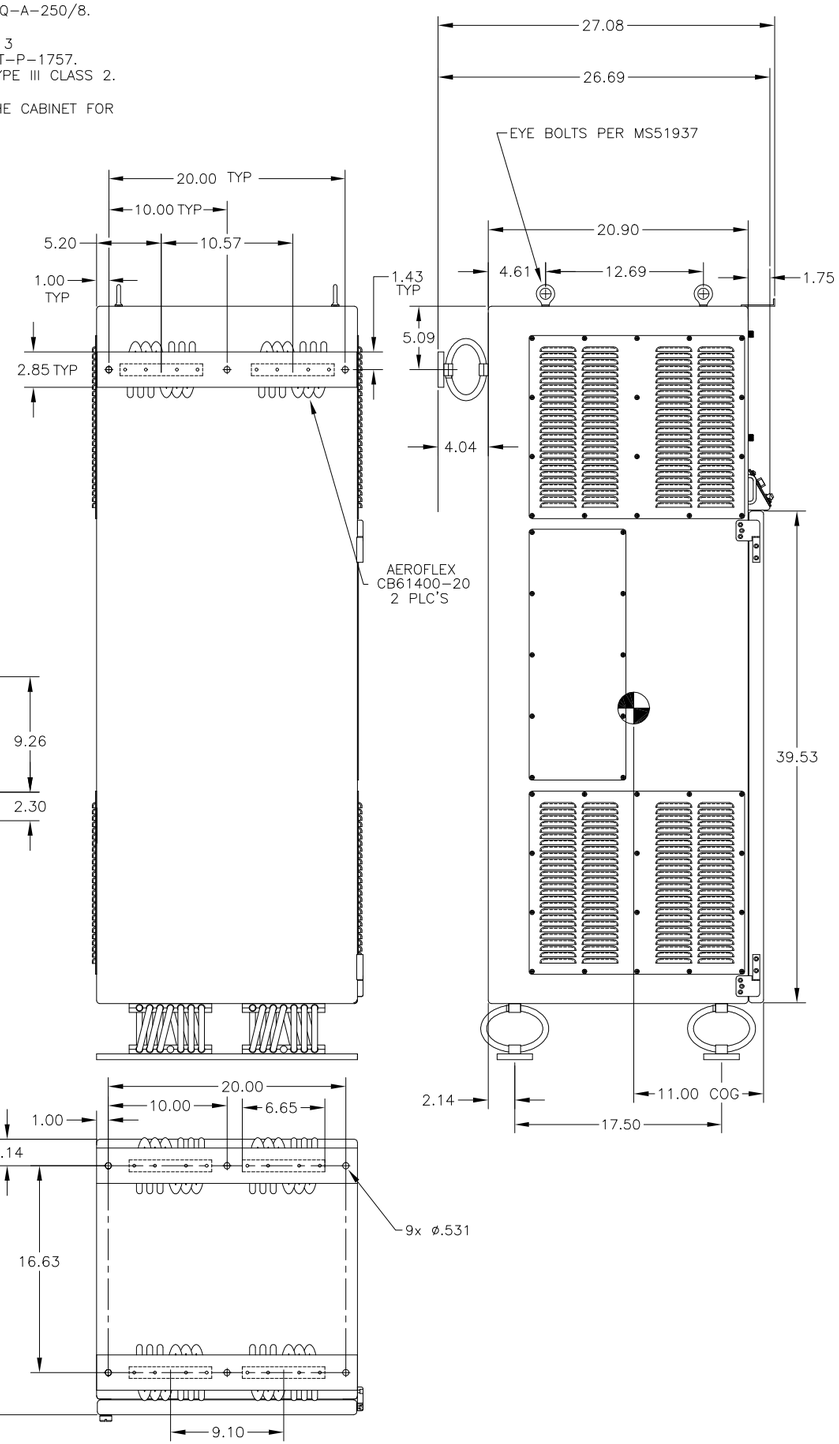
2.) FINISH: CHEMICAL FILM PER MIL–C–5541 CLASS 3
ONE COAT PRIMER PRETREATMENT PER TT–P–1757.
ONE COAT ENAMEL PER MIL–E–15090 TYPE III CLASS 2.

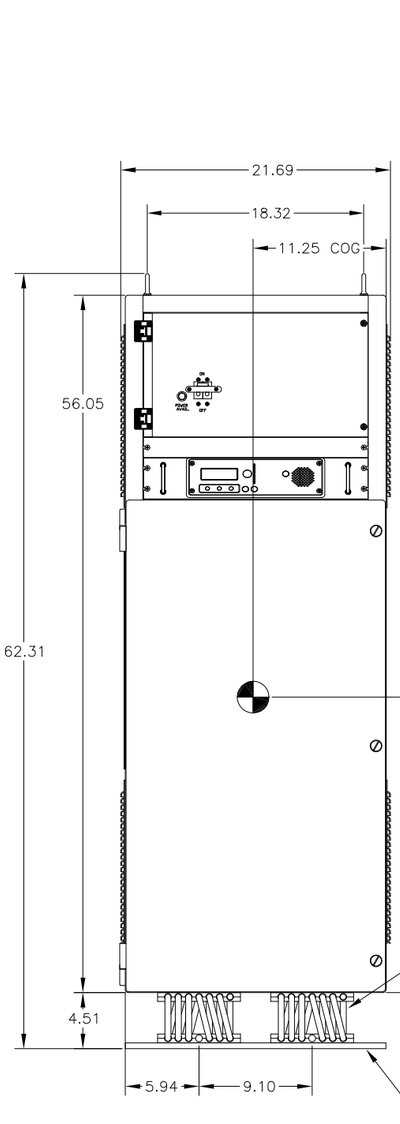
3.) ALLOW 6" OF CLEARANCE ON BOTH SIDES OF THE CABINET FOR PROPER VENTILATION

4.) WEIGHT: 394 Lbs.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	9/28/01	GBC
	B	PER ECN 4126	1/25/02	GBC







.500 THK ALUMINUM MOUNTING PLATE
MOUNTED TO DECK WITH
1/2–13 UNC–2B HEX BOLT
PER MS 35308–*
3 PLACES

* LENGTH TO BE DETERMINED BY
INSTALLING ACTIVITY.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES FRACTIONS ±1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ±1°	
MFG SPEC:	
MATERIAL:	SEE NOTE 1
FINISH:	SEE NOTE 2
NEXT ASSY / USED ON	APPLICATION
DRAWN DAPIER DATE 9/28/01	
CHECKED	
ENGINEER	
APPROVED	
CONTRACT NO. / REL DATE	
DESIGN ACTIVITY APPROVAL	
APPROVAL	

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: MTG. & OUTLINE DWG, RACK ANNOUNCING SYS.

SIZE	CAGE	DRAWING NO.	REV
E	12763	60173–202	B

SCALE 1/1 WEIGHT 277 SHEET 1 OF 1

12763 DWG NO. 60173–202 SH 1 REV B

Figure 19
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Ship's Wiring Interface

As described in the Ship's Wiring Tray section on page 10, the Ship's Wiring Tray accepts wiring from Mic Stations (or Mic Control Stations), Alarm Contactors, an IVCS Modem, Analog (POTS) Lines, and Loudspeakers. As shown in Figure 11 in the previous section, the large access plate on the top of the rack assembly (closer to the front of the unit) is intended for this wiring. Holes may be drilled into this access plate appropriately sized for stuffing tubes which will accommodate the wiring to the different system control components listed above.

Connection to the Ship's Wiring Board (see Figure 13) itself is accomplished though the use of two-piece Euroblock connectors (Dynalec part numbers 14054-010-3, 14054-012-3, and 14054-016-3 for 10-, 12-, and 16-position plug connectors). These connectors have a small flathead screw for each wire position that, when tightened, retains a stripped wire (1/4" recommended strip length) in the plug part of the connector. The system is shipped with plugs inserted into every board-mounted header on the Ship's Wiring Board so no additional mates to these connectors are necessary. Once wiring to each plug is complete and the plug is inserted into the header, the two-pieces can be secured together by tightening the two end screws in each plug into its associated header. The plugs can accommodate wire sizes up to #16 AWG.

Mic Station Connections

The system can accommodate connection to up to 16 Mic Stations, Mic Control Stations, or other audio inputs to the system. Each Legacy Mic Interface Module (60173-425) will allow connection to four Mic Stations or Mic Control Stations. On the Ship's Wiring Board, there are two Euroblock connectors associated with each Mic Station interface, one 12-position connector and one 10-position connector.

A description of each of the 22 connections (in 10- and 12-position connectors) follows:

MIC+/MIC- Pair: This pair carries the mic-level audio signal from the Mic Station or Mic Control Station into the Legacy Mic Interface Module. On an IC/MJB-2 Mic Jackbox, IC/MSB-2 Mic Control Station, or M-136 Microphone, this pair would be connected to TB1 terminals 2 and C2.

SHIELD: This signal is connected to the chassis of the Announcing System Rack. On an IC/MJB-2 Mic Jackbox, IC/MSB-2 Mic Control Station, or M-136 Microphone, this signal would be connected to TB1 terminal 3.

VISUAL_IND: When a Mic Control Station is used to make an announcement, the actual output of the amplifier is attenuated and sent back for indication on the Volume Indicator on the station. The reference for this signal is the **PTT/SEL COMMON** line (see below). This signal would be connected to TB2 terminal 16 on the IC/MSB-2 Mic Control Station (since the IC/MSB-2 is the only station with a Volume Indicator).

PTT: This signal is the Push-to-Talk input to the Legacy Mic Interface Module. Only when this signal is activated does the system route the audio present on the **MIC+/MIC – Pair** to the appropriate amplifier(s). This signal is activated by providing a low-impedance path (< 10Ω) between the **PTT** line and the **PTT/SEL COMMON** line (see below). On an IC/MJB-2 Mic Jackbox, IC/MSB-2 Mic Control Station, or M-136 Microphone, this signal would be connected to TB1 terminal 1.

BLK1 BUSY: This line is an output from the Legacy Mic Interface Module to the connected Mic Station indicating the busy status of Voice Channel Block 1. The system activates this signal when at least one Voice Channel in Block 1 is in use (see Voice Channel "Blocks" section on page 15). When active, 5VDC is presented between the **BLK1 BUSY** line and the **BUSY COMMON** line (see below). When inactive, this line is floating (high-impedance state).

This signal is actually used to drive the busy lamps in the IC/MSB-2 Mic Control Station. However, the standard IC/MSB-2 operates with a 115VAC busy signal. To allow the new system to drive the busy lamps, 2 modifications need to be performed on the IC/MSB-2. First, the lamp sockets on the IC/MSB-2, which contains an in-line resistor, must be replaced with lamp sockets with no resistors (LH76/3 – Dynalec P/N 14101-064). Next, the neon busy lamps must be replaced with 5V LED's (Dynalec P/N 16400-052). An IC/MSB-2 with these modifications will be ready for use with the Integrated Announcing System.

If a Mic Control Station is set up to have access to any of the Voice Channels in Block 1 (V1, V2, V3, V4, V5, or V6), one of the busy lamps should be connected to the **BLK1 BUSY** signal by connecting this line to TB1 terminal 9 to for the left busy lamp (DS1) or TB1 terminal 8 for the right busy lamp (DS2). Only the IC/MSB-2 has busy lamps.

BLK2 BUSY: Same function and characteristics as **BLK1 BUSY** signal except **BLK2 BUSY** signal is active if any of the Voice Channels in Block 2 (V7 or V8) are active.

BLK3 BUSY: Same function and characteristics as **BLK1 BUSY** signal except **BLK3 BUSY** signal is active if the Voice Channel in Block 3 (V9) is active.

BLK4 BUSY: Same function and characteristics as **BLK1 BUSY** signal except **BLK4 BUSY** signal is active if the Voice Channel in Block 4 (V10) is active.

PTT/SEL COMMON: This line is the reference signal for the **PTT**, **VISUAL_IND**, and **GROUP SELECT** signals (see below). On an IC/MJB-2 Mic Jackbox, IC/MSB-2 Mic Control Station, or M-136 Microphone, this signal would be connected to TB1 terminal 6. On an IC/MSB-2 Mic Control Station, this signal should also be connected to TB2 terminal 17 (for the **VISUAL_IND** reference). This connection may be made with an internal jumper in the IC/MSB-2 between TB1-6 and TB2-17.

BUSY COMMON: This line is the reference signal for the **BLK1 BUSY**, **BLK2 BUSY**, **BLK3 BUSY**, and **BLK4 BUSY** signals. On an IC/MSB-2 Mic Control Station, this signal should be connected to TB1 terminal 7 (only the IC/MSB-2 has busy lamps).

GROUP SELECTS: The 10 signals in the 10-position Euroblock connector for each Mic Interface are the group select lines for Voice Channels V1-V10. A particular group is selected by providing a low-impedance path (< 10Ω) between the corresponding select line and the **PTT/SEL COMMON** line.

Each of the group select switches on an IC/MSB-2 Mic Control Station may be connected to a different group select line on the connector. For example, if Switch 1 (top-left) on an IC/MSB-2 was to be configured to access Voice Channel V1, then the V1 line should be connected to TB1 terminal 10.

On an IC/MJB-2 or an M-136, there are no group select switches. However, these devices still need to activate one or more group select lines so that system knows which Voice Channel(s) are being activated when the mic is "keyed" (i.e. Push-to-Talk is pressed). This is accomplished by connecting the group select line(s) corresponding to the Voice Channel(s) to be activated to the **PTT** line. This connection can be made with jumpers at the Euroblock connector itself *or* the appropriate group select line(s) can be brought to TB1 terminal 1 on the IC/MJB-2 or M-136.

Alarm Contactor Connections

The system can accommodate connection of alarm contactors for activation of alarm signals A1-A5 (Collision, Chemical, General, Unassigned, and Flight Crash). These alarm contactors, when active, present a low-impedance path (< 10Ω) between the wire pair connected to them.

Each alarm contactor should be connected to the appropriate pair on Euroblock connector P33 (the plug-in mate to J33). The wire pair from the Collision alarm contactor should be connected to P33 terminals 1 and 2. The wire pair from the Chemical alarm contactor should be connected to P33 terminals 3 and 4. The wire pair from the General alarm contactor should be connected to P33 terminals 5 and 6. The wire pair from the

Unassigned alarm contactor should be connected to P33 terminals 7 and 8. The wire pair from the Flight Crash alarm contactor should be connected to P33 terminals 9 and 10.

Multiple alarm contactors may be paralleled (either at the Euroblock connector itself or at the contactors) if the system requirements call for alarm activation from multiple contactors.

PBX Interface Connections

If the system is configured with a PBX/IVCS Modem Interface Module (60173-445), the system can be connected to up to 6 analog (POTS) phone lines. Which of the 6 lines that a given phone line is connected to dictates which 1MC (Block 1) announcing groups are accessed when that phone line is called (see PBX Interface Operation section on page 24 for more information).

The TIP and RING of each of these 6 lines should be connected to the appropriate pair on Euroblock connector P35 (the plug-in mate to J35). For example, a phone line can be connected between P35 terminals 1 and 2.

Note that the circuitry of the PBX/IVCS Modem Interface Module makes these connections polarity *insensitive* so the TIP and RING lines may be swapped without affecting the performance of the interface.

IVCS Modem Interface Connections

If the system is configured with a PBX/IVCS Modem Interface Module (60173-445), the system can be connected to a Modified IVCS Modem (62300-127-1). Note that the modification to the standard 62300-127 involves the diode reversal which was necessary to allow the IVCS Modem to function correctly with the AN/SIA-114B system.

To make wiring between the Integrated Announcing System and the IVCS Modem simpler, the terminals on Euroblock connector P34 (the plug-in mate to J34) are labeled with the points to which they connect to in the IVCS Modem.

Auxiliary Signal Interface Connections

The signals which are described in the Auxiliary System Outputs section on page 23 are accessible at Euroblock connector P44 (the plug-in mate to J44).

Any devices which are to receive the 115VAC Visual Alarm Indication signal can be wired to J44 terminals 1 and 2 **OR** J44 terminals 3 and 4. The isolated contact closure to mute a separate entertainment system when there is an alarm in progress can be obtained on J44 terminals 5 and 6. There is also a separate isolated contact closure which is activated when there is an alarm in progress which can be obtained on J44 terminals 9 and 10. The isolated contact closure to attenuate a separate entertainment system when there is a 1MC (Block 1) announcement in progress can be obtained on J44 terminals 7 and 8.

Amplifier Output Interface Connections

The amplifier outputs from Amplifiers 1-6 in Amplifier Chassis 1 can be obtained at Euroblock connectors P42 and P43 (plug-in mates to J42 and J43, respectively). Note that these two connectors are paralleled together to facilitate multiple connections to a single amplifier output.

The amplifier outputs from Amplifiers 7-12 in Amplifier Chassis 2 can be obtained at Euroblock connectors P40 and P41 (plug-in mates to J40 and J41, respectively). Note that, as with J42 and J43, these two connectors are paralleled together to facilitate multiple connections to a single amplifier output.

Local Loudspeaker Cutout Connections

The Integrated Announcing System also makes provisions for local loudspeaker cutout. This provision allows for a loudspeaker located in close proximity to a particular mic station to be disabled while the mic station is active. This is accomplished through the use of a relay for each Mic Interface on the Ship's Wiring Board which is disabled when the Push-to-Talk signal is activated on that particular Mic Station. Connection to these relays is accomplished using Euroblock connectors P36-P39 (plug-in mates to J36-J39, respectively) on the Ship's Wiring Board.

Note that this relay is only capable of passing 150mA (10W of loudspeaker audio).

The procedure for connecting a particular loudspeaker (or group of loudspeakers) to the disconnect circuitry is as follows:

First, connect a pair of jumper wires to the Amplifier Output connector (P40, P41, P42, or P43) that the loudspeaker would be connected to if it were not being configured for local disconnect. Connect the other end of these jumper wires to the terminals on P38 or P39 corresponding to the mic station which will control the disconnect. These jumper wires should be sized to handle the current of the loudspeaker load to be locally controlled (150mA MAX).

Then, connect the loudspeaker to be locally controller to the terminals on P36 or P37 corresponding to the mic station which will control the disconnect (should be the same terminals used on P38 or P39 in the above step).

<u>Example:</u>

Mic Station 8 is an IC/MJB-2 wired for making Topside (V1) announcements. An LS-305 (1W) loudspeaker is located directly above the IC/MJB-2 which receives Topside announcements. Amplifier 1 is configured to broadcast Topside (V1 announcements).

Jumper wires are connected from J42 terminals 1 and 2 (Amp 1 output) to J38 terminals 15 and 16. The LS-305 loudspeaker is then connected to J36 terminals 15 and 16.

In this configuration, the LS-305 loudspeaker will be muted when the IC/MJB-2 (Mic Station 8) activates its Push-to-Talk switch.

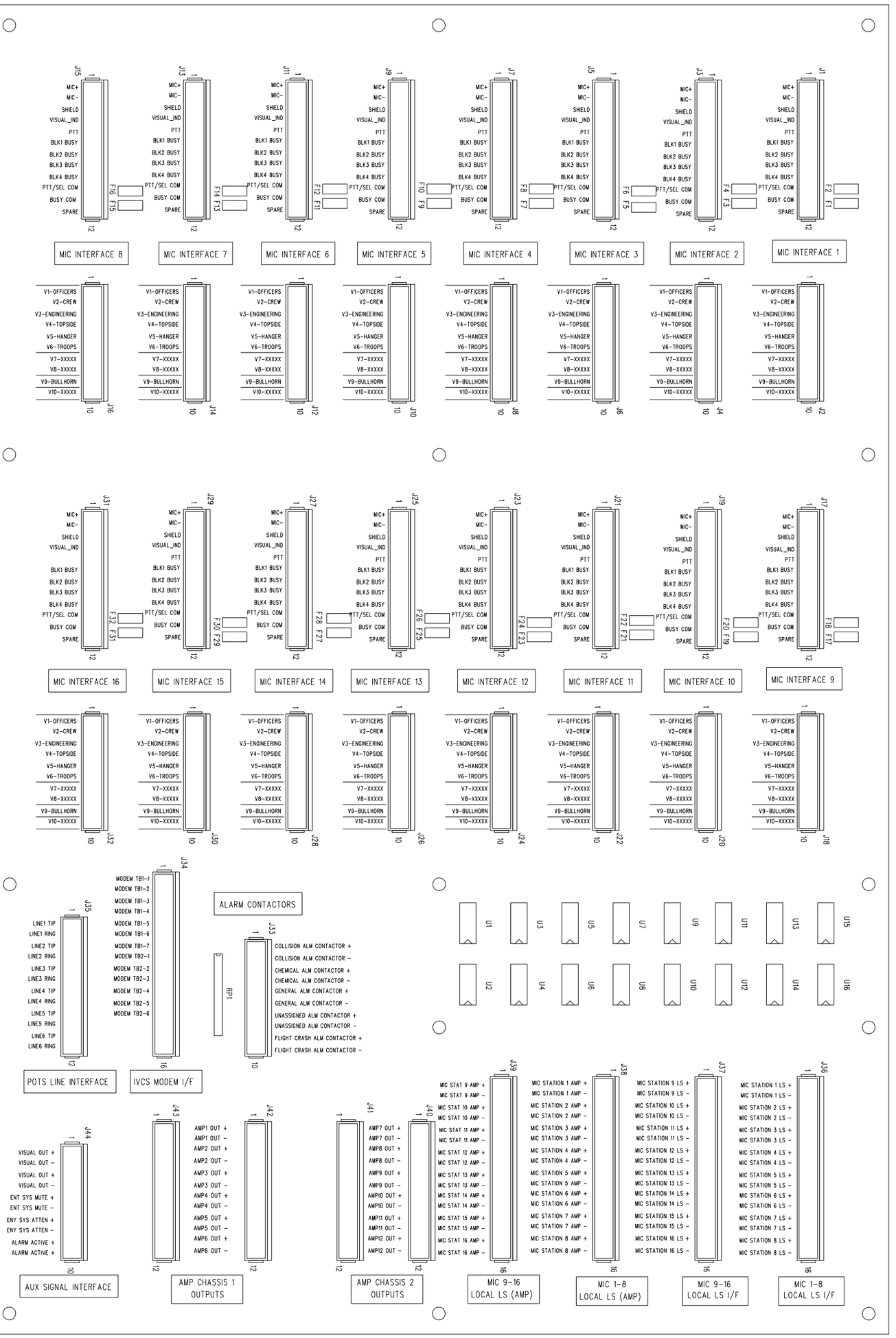
MIC INTERFACE 8
MIC INTERFACE 7
MIC INTERFACE 6
MIC INTERFACE 5
MIC INTERFACE 4
MIC INTERFACE 3
MIC INTERFACE 2
MIC INTERFACE 1
MIC INTERFACE 16
MIC INTERFACE 15
MIC INTERFACE 14
MIC INTERFACE 13
MIC INTERFACE 12
MIC INTERFACE 11
MIC INTERFACE 10
MIC INTERFACE 9
POTS LINE INTERFACE
IVCS MODEM I/F
ALARM CONTACTORS
AUX SIGNAL INTERFACE
AMP CHASSIS 1 OUTPUTS
AMP CHASSIS 2 OUTPUTS
MIC 9-16 LOCAL LS (AMP)
MIC 1-8 LOCAL LS (AMP)
MIC 9-16 LOCAL LS I/F
MIC 1-8 LOCAL LS I/F

Figure 20
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The Integrated Announcing System is shipped with a configuration of input modules (Legacy Mic Interface Modules or PBX/IVCS Modem Interface Module) as designated by the system which was ordered. The system is capable of interfacing with up to 4 modules so, depending on the system configuration that was originally ordered, additional modules may be added at a later time.

The system identifies the modules with numbers 1 through 4 so that the main system processor can interface with each module independently. When a system is shipped, the Legacy Mic Interface Module closest to the top of the rack is configured as Module 1 and each additional Legacy Mic Interface Module will be assigned the next available module number. The PBX/IVCS Modem Interface Module is *always* configured as Module 4. For example, if a system is ordered with 2 Legacy Mic Interface Modules and a PBX/IVCS Modem Interface Module, the Legacy Mic Interface Module closest to the top of the rack will be Module 1, the other Legacy Mic Interface Module will be Module 2, and the PBX/IVCS Modem Interface Module will be Module 4.

If a Legacy Mic Interface Module is added to the system, care must be taken that it is configured for a module number that doesn't conflict with one already in the system. In the example above, an addition Legacy Mic Interface Module needs to be assigned to Module 3 (since that is the only available number in that system). This assignment is accomplished using the DIP-switch on the Legacy Mic Interface board (see Figure 21 below).

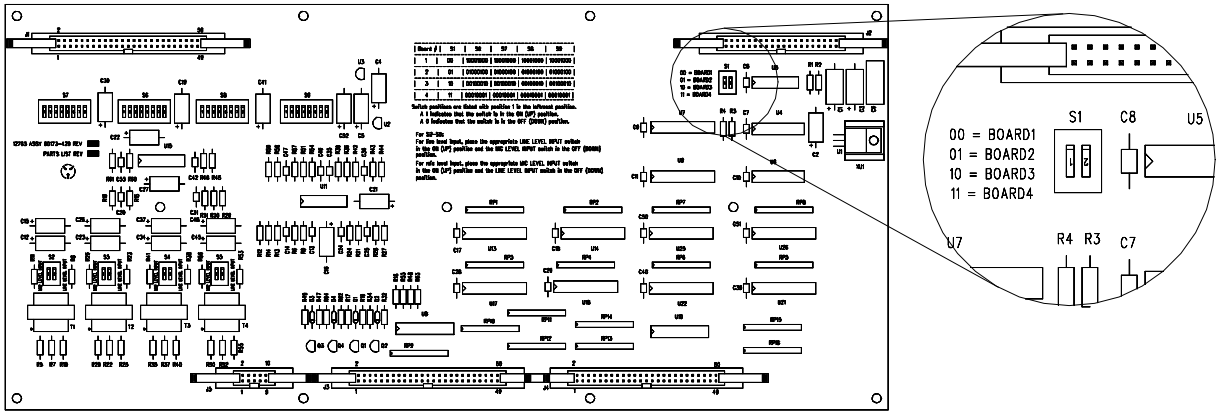

Figure 21 : Legacy Mic Interface Module Assignment DIP-switch

As indicated in the figure above, to assign this Legacy Mic Interface Module to Module 3, the left switch of S1 needs to be in the UP ("1") position and the right switch of S1 needs to be in the DOWN ("0") position.

In addition to setting S1, DIP-switches S6 through S9 need to be set so that the audio from each mic interface is routed to the correct system channel. This is accomplished by setting each of these DIP-switches as indicated in the table below (this table is also included on the silkscreen of the Legacy Mic Interface Module PCB).

Board #	S1	S6	S7	S8	S9
1	00	10001000	10001000	10001000	10001000
2	01	01000100	01000100	01000100	01000100
3	10	00100010	00100010	00100010	00100010
4	11	00010001	00010001	00010001	00010001

Switch positions are listed with position 1 in the leftmost position.
A 1 indicates that the switch is in the ON (UP) position.
A 0 indicates that the switch is in the OFF (DOWN) position.

There is one additional DIP-switch type adjustment that can be made on the Legacy Mic Interface Module. When the system is shipped, all mic interfaces are configured to accept “mic level” audio (approximately 8.7mVrms directly from an M-124/SIC microphone). There is a DIP-switch associated with each mic interface that, when switched, will allow a line level (0.775Vrms) signal to be input at the mic interface. To configure mic interface 1 on the board shown in the figure below for line level, the left switch of S2 should be in the DOWN position and the right switch of S2 should be in the UP position.

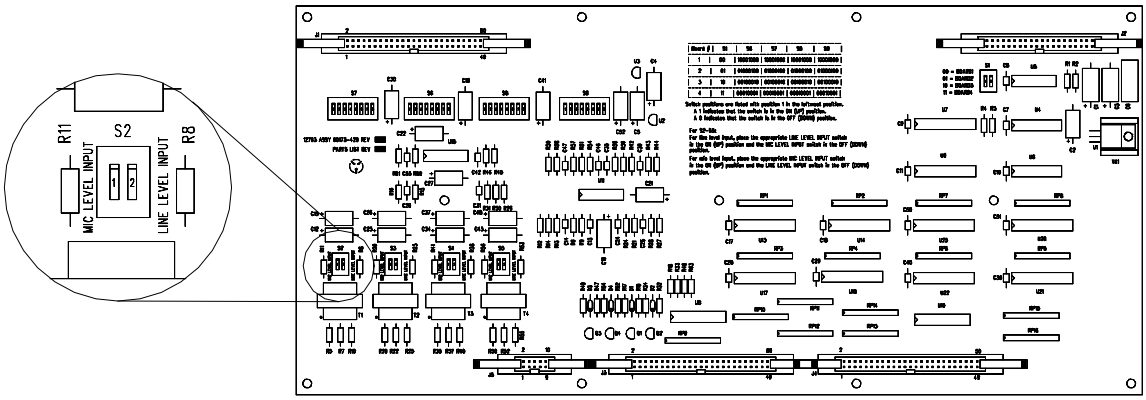

Figure 22 : Legacy Mic Interface Input Level Control DIP-switch

As described in the Amplifier Sparing section on page 16, the right-most amplifier in each Amplifier Chassis can be configured as a spare which is automatically switched in when a fault is detected in one of the other 5 Amplifier Modules.

The system is shipped with the right-most amplifier in each Amplifier Chassis pre-configured as a spare. If the system requirements should change in such a manner that this Amplifier Module (Amp 6 or Amp 12, depending on which chassis) need to be configured as an independently functioning amplifier (i.e. not a spare), the following changes need to be made.

Figure 25 illustrates the internal Interconnect Diagram for the Integrated Announcing System rack. When the system is shipped with an Amplifier Chassis configured with a spare, the section of cable assembly W11 which connects to J12 of Amplifier Chassis 1 is left unconnected (the P8 connector of W11 is actually tie-wrapped to one of the internal wiring bars). To reconfigure the right-most amplifier in Amplifier Chassis 1 as an independent amplifier, this connector (W11P8) needs to be plugged into J12 of Amplifier Chassis 1 (A6A1J12). In addition, the DIP-switch on the back of Amplifier Chassis 1 needs to be changed. Figure 23 below illustrates the DIP-switch in question.

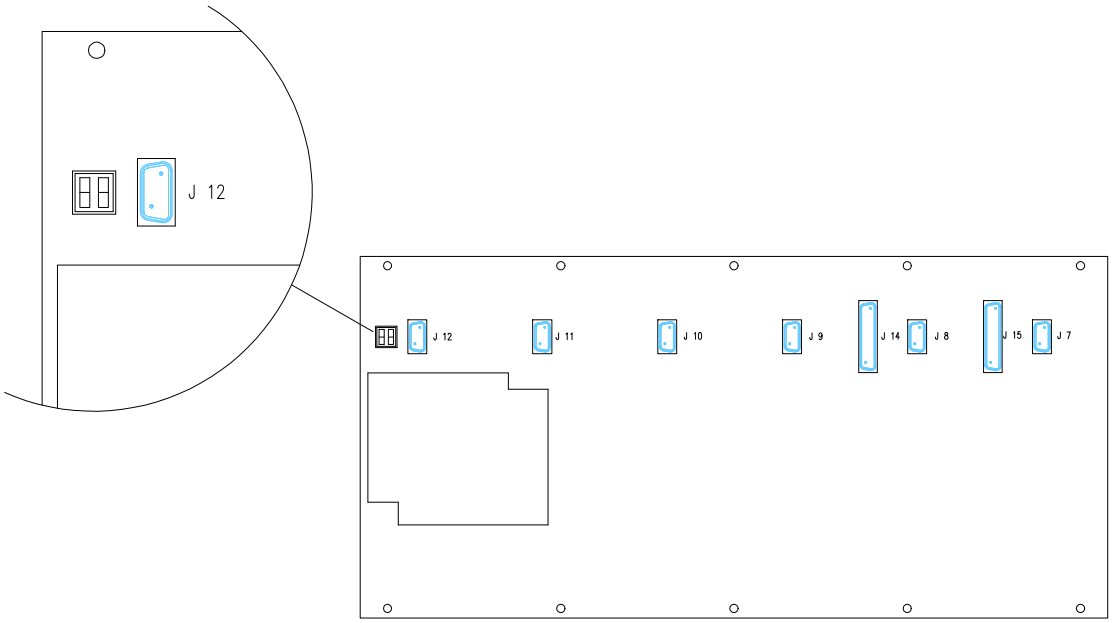

Figure 23 : Amplifier Chassis Spare Configuration DIP-switch

With the right-most amplifier configured as a spare, the ***right*** switch DIP-switch will be in the DOWN position. To configure the amplifier as an independent amplifier, it should be switched to the UP position.

The same applies for Amplifier Chassis 2 except that W21P8 needs to be plugged into J12 of Amplifier Chassis 2 (A12A1J12). The DIP-switch on the back of Amplifier Chassis 2 needs to be also switched as described above.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APVD
	A	RELEASE	26SEP01	TB

ANNOUNCING SYSTEM RACK
60173-200-01

TO A3J5
TO A3J3
TO A3J4
TO A4J5
TO A4J3
TO A4J4

W1 9
W2 50
W3 50
W4 9
W5 50
W6 50

A1
SHIP'S WIRING TRAY ASSEMBLY
60173-435

P1 J45 — MODULE 1 MIC AUDIO I/F CONNECTOR
P1 J46 — MODULE 1 SIGNAL I/F CONNECTOR 1
P1 J47 — MODULE 1 SIGNAL I/F CONNECTOR 2
P1 J48 — MODULE 2 MIC AUDIO I/F CONNECTOR
P1 J49 — MODULE 2 SIGNAL I/F CONNECTOR 1
P1 J50 — MODULE 2 SIGNAL I/F CONNECTOR 2
P1 J57 (1 6 2 7 3 8 4 9 5) — AUX SIGNAL INTERFACE CONNECTOR

W10
BLACK — TO A2J6.1
WHITE — TO A2J6.6
BLUE — TO A2J6.2
W/BLUE — TO A2J6.7
ORANGE — TO A2J6.3
W/ORANGE — TO A2J6.8
YELLOW — TO A2J6.4
W/YELLOW — TO A2J6.9

J58 P1 — AMP CHASSIS 1 OUTPUT CONNECTOR

W11
BROWN — TO A6A1J7.4
W/BROWN — TO A6A1J7.8
RED — TO A6A1J8.4
W/RED — TO A6A1J8.8
ORANGE — TO A6A1J9.4
W/ORANGE — TO A6A1J9.8
YELLOW — TO A6A1J10.4
W/YELLOW — TO A6A1J10.8
GREEN — TO A6A1J11.4
W/GREEN — TO A6A1J11.8
BLUE — TO A6A1J12.4
W/BLUE — TO A6A1J12.8

A1
PCB ASSY, SHIP'S WIRING PCB
60173-430

J59 P1 — AMP CHASSIS 2 OUTPUT CONNECTOR

W21
BROWN — TO A12A1J7.4
W/BROWN — TO A12A1J7.8
RED — TO A12A1J8.4
W/RED — TO A12A1J8.8
ORANGE — TO A12A1J9.4
W/ORANGE — TO A12A1J9.8
YELLOW — TO A12A1J10.4
W/YELLOW — TO A12A1J10.8
GREEN — TO A12A1J11.4
W/GREEN — TO A12A1J11.8
BLUE — TO A12A1J12.4
W/BLUE — TO A12A1J12.8

J51 — MODULE 3 MIC AUDIO I/F CONNECTOR
J52 — MODULE 3 SIGNAL I/F CONNECTOR 1
J53 — MODULE 3 SIGNAL I/F CONNECTOR 2
J54 — MODULE 4 MIC AUDIO I/F CONNECTOR
J55 — MODULE 4 SIGNAL I/F CONNECTOR 1
J56 — MODULE 4 SIGNAL I/F CONNECTOR 2

W18 9
W19 50
W20 50
W7 9
W8 50
W9 50

TO A5J4
TO A5J3
TO A5J5
TO A11J4
TO A11J3
TO A11J5
TO A7TB1-A1
TO A7TB1-B1

SEE 60173-484 JMP LIST

FL1
115VAC INPUT — 1L
115VAC INPUT — 1N
LINE INPUT
1G CHASSIS GND
LOAD
2L BLK W/RED TUBING
2N WHT W/RED TUBING

A10
ASSY, POWER PANEL
60173-246

CB1
BLK — A1
WHT — B1
DS1 (1, 2)
A2 BLK
B2 WHT

THIS IS A CAD MAINTAINED FILE E:\DRAWING\60173\20101A1A.DWG

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONS ± 1/64 DECIMALS XX ± .02 XXX ± .005 ANGLES ± 1°
MFG SPEC:
MATERIAL:
FINISH:
60173-200
NEXT ASSY | USED ON
APPLICATION

DRAWN T.BARTOSIEWICZ 3-22-01
CHECKED
ENGINEER
APPROVED
CONTRACT NO. | REL DATE
DESIGN ACTIVITY APPROVAL
APPROVAL

DYNALEC CORPORATION
SODUS, NEW YORK 14551

TITLE: INTERCONNECT DIAGRAM, ANNOUNCING SYSTEM RACK

SIZE F | CAGE 12763 | DRAWING NO. 60173-201-01 | REV A
SCALE NONE | WEIGHT – | SHEET 1 OF 4

12763 DWG NO. 60173-201-01 SH 1 REV A

Figure 24
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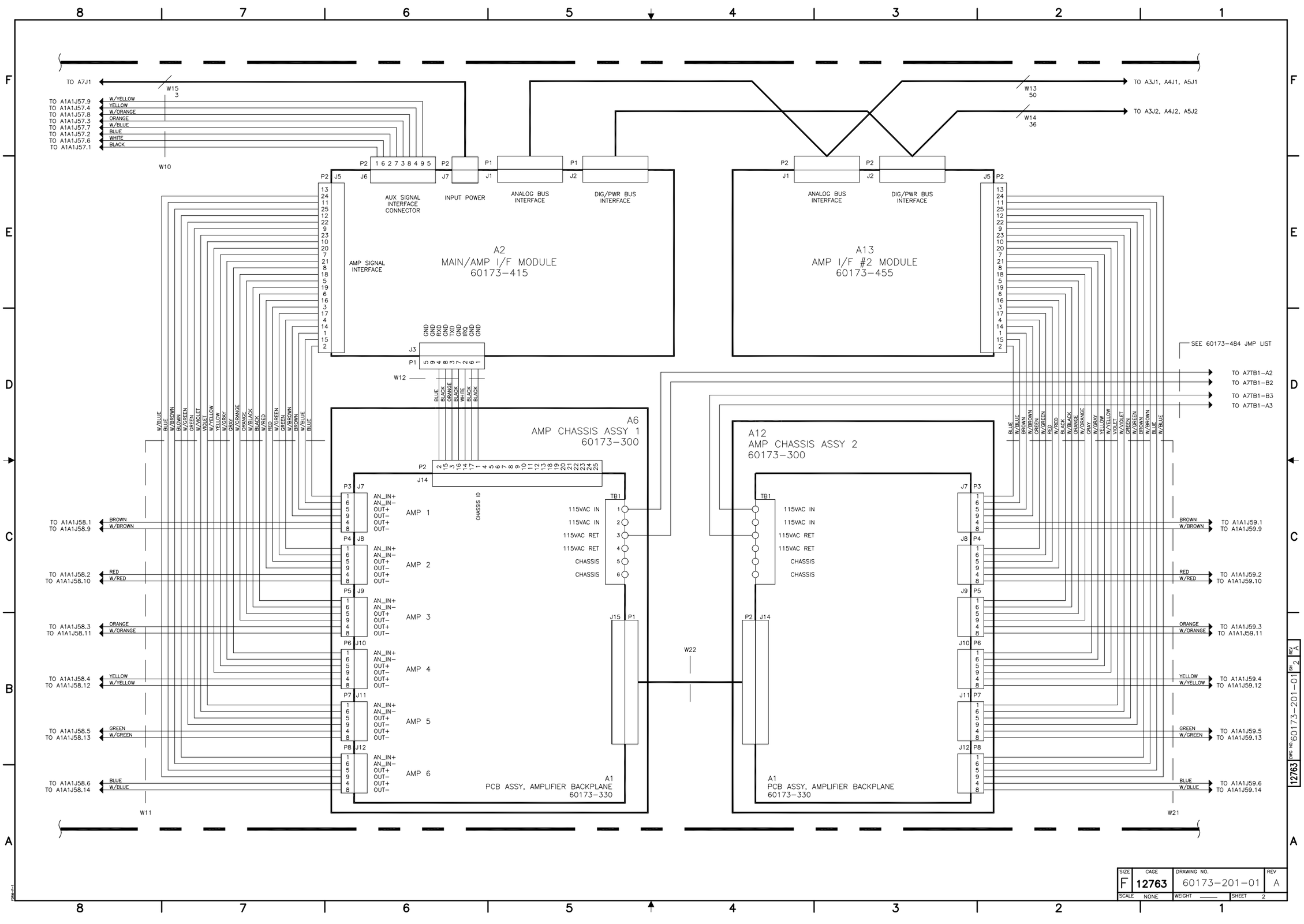
TO A7J1
W15
3
TO A1A1J57.9 W/YELLOW
TO A1A1J57.4 YELLOW
TO A1A1J57.8 W/ORANGE
TO A1A1J57.3 ORANGE
TO A1A1J57.7 W/BLUE
TO A1A1J57.2 BLUE
TO A1A1J57.6 WHITE
TO A1A1J57.1 BLACK
W10
P2 1 6 2 7 3 8 4 9 5 P2
P1
P1
P2 J5 J6 J7 J1 J2
AUX SIGNAL INTERFACE CONNECTOR
INPUT POWER
ANALOG BUS INTERFACE
DIG/PWR BUS INTERFACE
AMP SIGNAL INTERFACE
A2
MAIN/AMP I/F MODULE
60173-415
GND GND RXD GND TXD GND IRQ GND GND
J3
P1
W12
BLUE BLACK ORANGE BLACK WHITE BLACK BLACK BLACK
W13
50
W14
36
TO A3J1, A4J1, A5J1
TO A3J2, A4J2, A5J2
P2 J1 J2 P2
ANALOG BUS INTERFACE
DIG/PWR BUS INTERFACE
A13
AMP I/F #2 MODULE
60173-455
J5 P2
SEE 60173-484 JMP LIST
TO A7TB1-A2
TO A7TB1-B2
TO A7TB1-B3
TO A7TB1-A3
A6
AMP CHASSIS ASSY 1
60173-300
P2 J14
CHASSIS ID
P3 J7 AMP 1
P4 J8 AMP 2
P5 J9 AMP 3
P6 J10 AMP 4
P7 J11 AMP 5
P8 J12 AMP 6
AN_IN+ AN_IN- OUT+ OUT- OUT+ OUT- OUT+ OUT-
TB1
115VAC IN
115VAC IN
115VAC RET
115VAC RET
CHASSIS
CHASSIS
J15 P1
W22
A1
PCB ASSY, AMPLIFIER BACKPLANE
60173-330
A12
AMP CHASSIS ASSY 2
60173-300
TB1
115VAC IN
115VAC IN
115VAC RET
115VAC RET
CHASSIS
CHASSIS
P2 J14
J7 P3
J8 P4
J9 P5
J10 P6
J11 P7
J12 P8
A1
PCB ASSY, AMPLIFIER BACKPLANE
60173-330
TO A1A1J58.1 TO A1A1J58.9 BROWN W/BROWN
TO A1A1J58.2 TO A1A1J58.10 RED W/RED
TO A1A1J58.3 TO A1A1J58.11 ORANGE W/ORANGE
TO A1A1J58.4 TO A1A1J58.12 YELLOW W/YELLOW
TO A1A1J58.5 TO A1A1J58.13 GREEN W/GREEN
TO A1A1J58.6 TO A1A1J58.14 BLUE W/BLUE
W11
W21
TO A1A1J59.1 TO A1A1J59.9 BROWN W/BROWN
TO A1A1J59.2 TO A1A1J59.10 RED W/RED
TO A1A1J59.3 TO A1A1J59.11 ORANGE W/ORANGE
TO A1A1J59.4 TO A1A1J59.12 YELLOW W/YELLOW
TO A1A1J59.5 TO A1A1J59.13 GREEN W/GREEN
TO A1A1J59.6 TO A1A1J59.14 BLUE W/BLUE
DWG NO 60173-201-01 SH 2 REV A
12763
SIZE F
CAGE 12763
DRAWING NO. 60173-201-01
REV A
SCALE NONE
WEIGHT
SHEET 2

Figure 24
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TO A1A1J56
TO A1A1J55
TO A1A1J54
TO A1A1J53
TO A1A1J52
TO A1A1J51
TO A1A1J50
TO A1A1J49
TO A1A1J48
TO A1A1J47
TO A1A1J46
TO A1A1J45

W1 9 W2 50 W3 50
W4 9 W5 50 W6 50
W18 9 W19 50 W20 50
W7 9 W8 50 W9 50

P2 J5 P2 J3 P2 J4

MIC AUDIO I/F CONNECTOR
SIGNAL I/F CONNECTOR 1
SIGNAL I/F CONNECTOR 2

A3
MIC INTERFACE ASSY
60173-425

A4
MIC INTERFACE ASSY
60173-425

A11
MIC INTERFACE ASSY
60173-425

A5
PBX INTERFACE ASSY
60173-445

ANALOG BUS INTERFACE
DIG/PWR BUS INTERFACE

J1 P3 J2 P3
J1 P5 J2 P5
J1 P5 J2 P5
J1 P6 J2 P6

TO A2J1 W13 50
TO A2J2 W14 36

SIZE	CAGE	DRAWING NO.	REV
F	12763	60173-201-01	A
SCALE NONE		WEIGHT ——	SHEET 3

12763 DWG NO. 60173-201-01 SH 3 REV A

Figure 24
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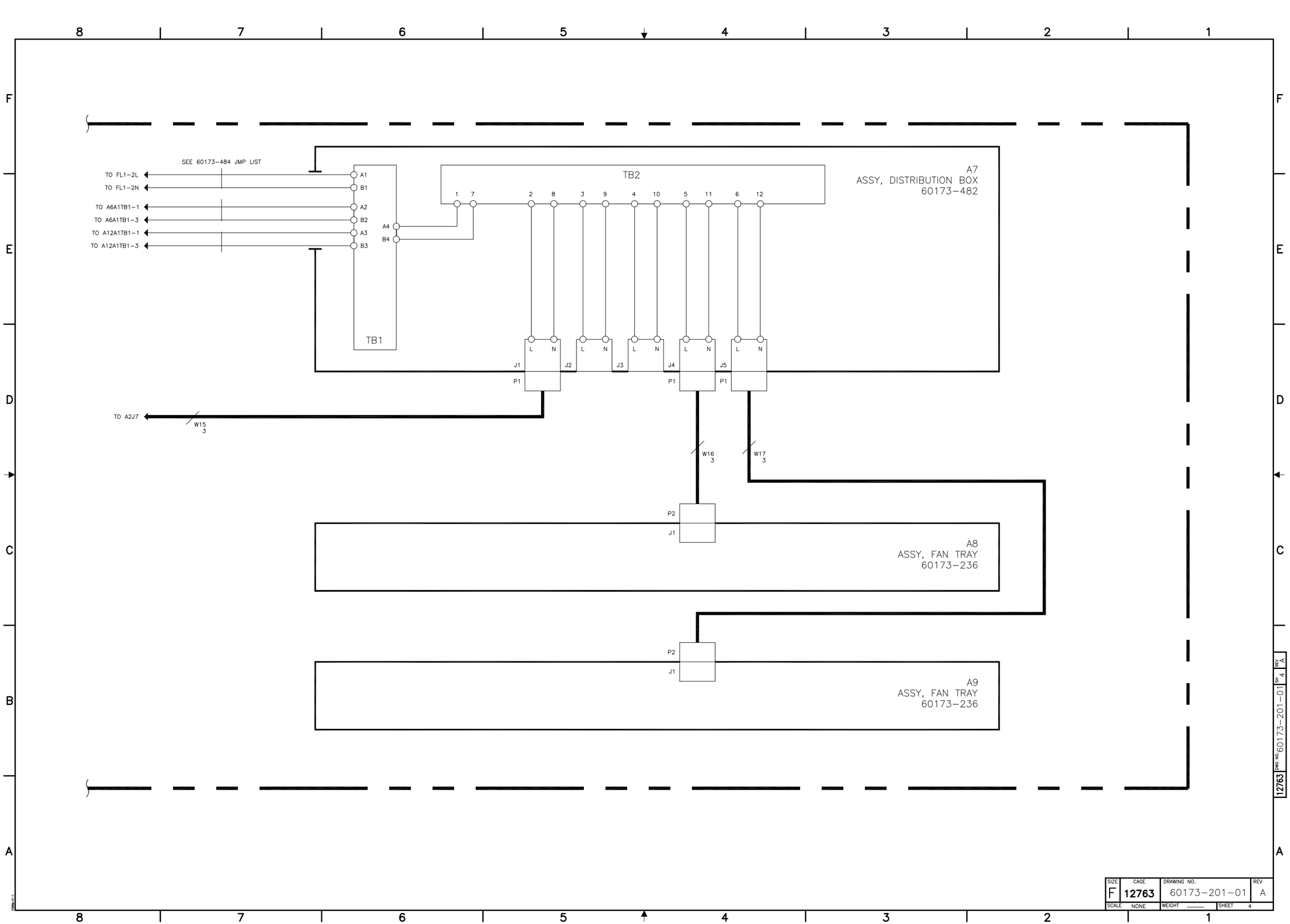
SEE 60173-484 JMP LIST
TO FL1-2L
TO FL1-2N
TO A6A1TB1-1
TO A6A1TB1-3
TO A12A1TB1-1
TO A12A1TB1-3
A1
B1
A2
B2
A3
B3
A4
B4
TB1
TB2
1 7 2 8 3 9 4 10 5 11 6 12
A7
ASSY, DISTRIBUTION BOX
60173-482
L N L N L N L N L N
J1 J2 J3 J4 J5
P1 P1 P1
TO A2J7
W15
3
W16
3
W17
3
P2
J1
A8
ASSY, FAN TRAY
60173-236
P2
J1
A9
ASSY, FAN TRAY
60173-236
8 7 6 5 4 3 2 1
F E D C B A
12763 DWG NO. 60173-201-01 SH 4 REV A
SIZE F CAGE 12763 DRAWING NO. 60173-201-01 REV A
SCALE NONE WEIGHT —— SHEET 4

Figure 24

APPENDIX A – Fuse Location Table

The fuse table shown below delineates the type and quantity of fuses used in each modular assembly in the DIAS (Digital Integrated Announcing System). The fuses may be located in the actual IEC/filter connector on the module or on the associated circuit board as detailed below.

Module Name	Module PN	PCB Assy PN	Fuse Type	Qty	Fuse PN	Comment
Amp. Module	60173-350	60173-320	5MM,4A,125V	1	14050-075	
Amp. Chassis	60173-300	60173-330	1/8A, 125V	1	14050-015	
Amp. Chassis	60173-300	60173-330	20A, 250V	1	14050-024	
Aux. Amp. I/F	60173-455	60173-450	N/A			
Fan Module	60173-236	N/A	1A,125V,SLO	2	14050-078	
Main Amp. I/F	60173-415	60173-410	5MM,8A,Fast	2	14050-077	
Mic I/F Module	60173-425	60173-420	N/A			
PBX/IVCS I/F	60173-445	60173-440	N/A			
Ship’s Wiring	60173-435	60173-430	100mA, resettable	32	14050-103	

APPENDIX B – Firmware Location Table

The firmware location table shown below delineates the type and quantity of programmed integrated circuits used in each modular assembly in the DIAS (Digital Integrated Announcing System). Every programmed device is mounted in a socket so as to facilitate easy replacement and/or future software enhancements.

Module Name	Module PN	PCB Assy PN	IC Type	Qty	IC PN	Comment
Amp. Module	60173-350	60173-320	microcontroller	1	60173-323	
Amp. Chassis	60173-300	60173-330	microcontroller	1	60173-333	
Aux. Amp. I/F	60173-455	60173-450	N/A			
Fan Module	60173-236	N/A	N/A			
Main Amp. I/F	60173-415	60173-410	microcontroller	1	60173-413	
Main Amp. I/F	60173-415	60173-410	EPROM	2	60173-403	
Mic I/F Module	60173-425	60173-420	N/A			
PBX/IVCS I/F	60173-445	60173-440	microcontroller	1	60173-444	
Ship’s Wiring	60173-435	60173-430	N/A			